Missouriensis

Volume 32 (2014)

A Literature-Based Checklist of the Liverworts and Hornworts Reported from Missouri
John J. Atwood 1

Journal of the Missouri Native Plant Society

A LITERATURE-BASED CHECKLIST OF THE LIVERWORTS AND HORNWORTS REPORTED FROM MISSOURI

John J. Atwood
Missouri Botanical Garden
P.O. Box 299, St. Louis, MO 63166
email: john.atwood@mobot.org

There is no modern, comprehensive checklist of Missouri liverworts and hornworts. Most information regarding the diversity and distribution of these organisms in the state is scattered among localized checklists or scientific notes appended to studies about mosses. Furthermore, Missouri specimens are seldom represented in herbaria outside of the state, causing local distribution records to go overlooked in published floras pertaining to larger areas. For example, Frye and Clark's (1937–1947) *Hepaticae of North America* reports only 23 taxa from Missouri, whereas Schuster's (1966–1992) *The Hepaticae and Anthocerotae of North America* cites 49 taxa from the state. Such factors have reinforced a misconception that few liverworts and hornworts occur in Missouri, even though numerous taxa have been, and continue to be, reported. The following literature-based checklist was assembled to enumerate the taxa reported from Missouri and produce a consolidated list of vouchers from which these taxa can be verified.

The earliest reported hepatics from Missouri appear to be those collected by Thomas Drummond in 1831 (Wilson, 1841). Among his specimens from St. Louis were *Porella platyphylloidea* and the type specimen of *Jungermannia adscendens* (= *Chiloscyphus pallescens*). Later, Pech (1897) compiled a list of 10 species collected near Louisiana, Nelson (1911) documented an additional 15 species from St. Louis, and Drew (1940) documented 10 species from Boone County. In 1955, Gier summarized data on the distribution of 63 taxa in the state based on examined herbarium specimens (52 taxa) and unverified literature reports (11 taxa). Although his checklist was the first inventory of liverworts and hornworts in Missouri, many counties lacked sufficient

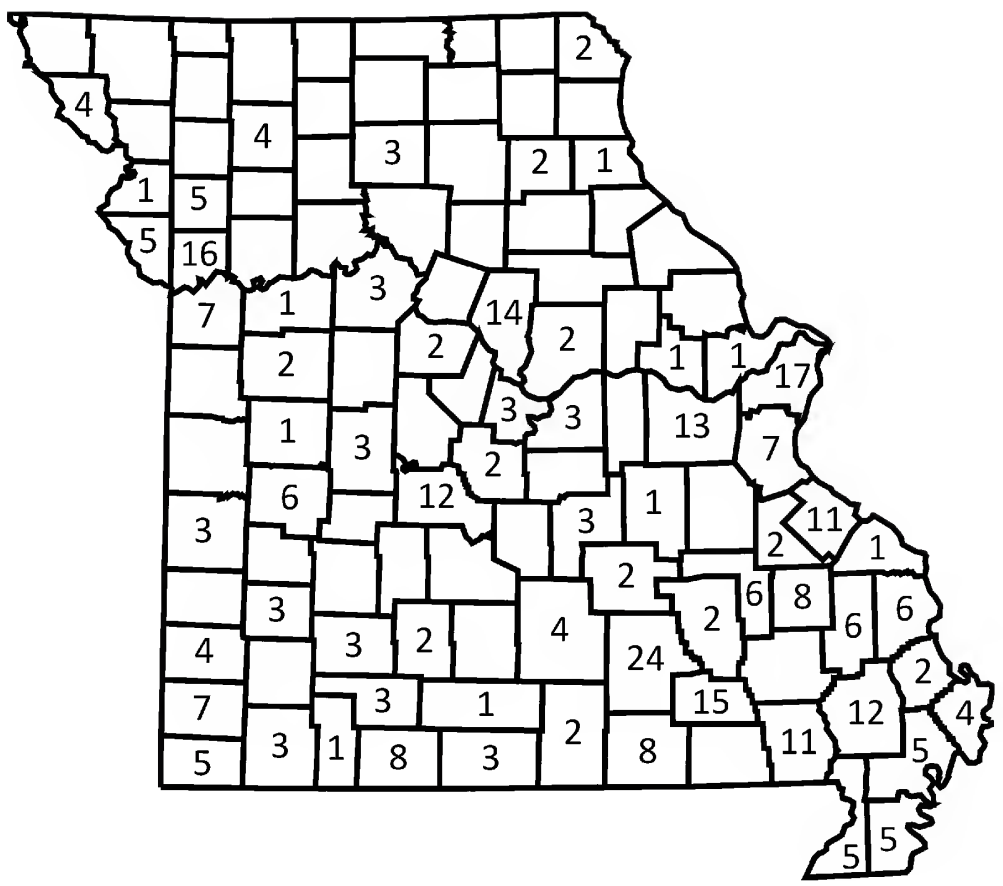

Figure 1. County map of Missouri with the number of liverwort and hornwort taxa reported from each county by Gier (1955).

distribution data. No taxa were reported for 47 counties, and 5 or fewer taxa were documented from 46 counties (Fig. 1).

Since the last statewide checklist, a series of papers documenting the bryoflora of the Ozark Interior Highlands (Redfearn, 1960, 1961, 1962, 1963, 1966, 1970, 1976) have noted several new distribution records for Missouri liverworts and hornworts. In addition, numerous records have been cited in surveys of Missouri state parks (Doolen, 1984; Fuller, 1986; Hilton, 1986; Holmberg and Atwood, 2014), the Ozark National Scenic Riverways (Timme, 1991), Pickle Springs Natural Area (Redfearn, 1964; Stotler and Vitt, 1972; Vitt, 1967), and from natural communities such as glades (Redfearn, 1980), springs (Redfearn, 1981), and fens (Orzell, 1984; Vitt and Horton, 1990). Notes on new county distribution records (Darigo, 1998, 1999, 2000, 2001, 2001a, 2002, 2004a, 2008; Ellison, 1962), as well as new state records (Atwood,

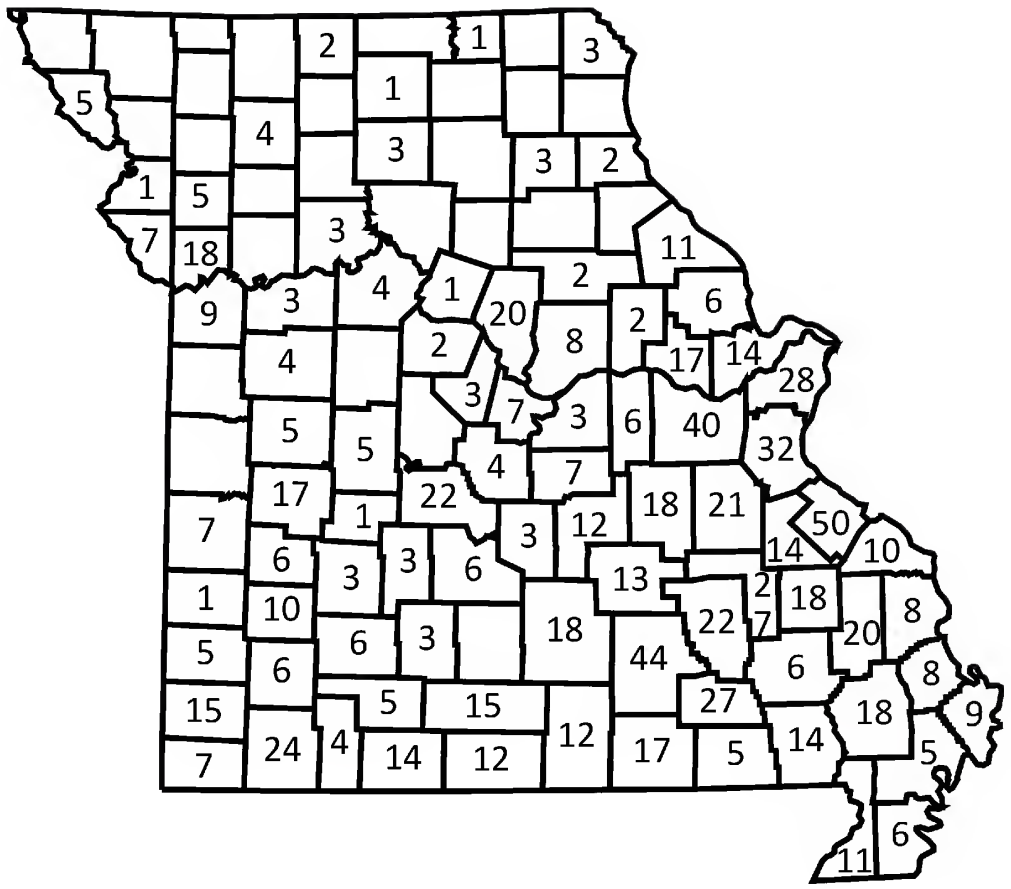

Figure 2. County map of Missouri with the number of liverwort and hornwort taxa currently reported from each county, based on publications.

2011; Darigo, 2004; Smith and Timme, 2006; Thomas and Redfearn, 1976), have also contributed to the documentation of the Missouri hepatic and anthocerote flora. Most of these records pertain to the Ozark Interior Highlands portion of the state and have been summarized in checklists for that region (Thomas, 1974; Timme and Redfearn, 1997, 2012). Outside of the Interior Highlands, additional information on the distribution of liverworts and hornworts in Missouri has marginally increased the overall county-level totals reported by Gier (1955).

Based on a review of 84 publications pertaining to Missouri liverworts and hornworts, 116 taxa are currently reported from the state (112 liverworts and 4 hornworts). Thirty-three counties have 11 or more taxa, 55 counties have 10 or fewer taxa, and 26 counties have no taxa reported from them (Fig. 2). Most taxa have largely fragmented distributions or are otherwise known from individual

localities. No liverwort or hornwort has been documented from every county in the state. In fact, 35% of the overall known taxonomic diversity of liverworts and hornworts in Missouri is contained within three counties (Franklin, Ste. Genevieve and Shannon counties). Seventy-six taxa are reported from 5 or fewer counties and 39 taxa are each reported from a single county only. According to literature reports, the 5 most widely distributed liverworts in the state are: *Frullania eboracensis* (51 counties), *Frullania inflata* (48 counties), *Chiloscyphus profundus* (37 counties), *Conocephalum salebrosum* (36 counties), and *Frullania riparia* (33 counties). *Phaeoceros carolinianus* is the most cited hornwort from the state and is reported from 27 counties.

The following literature-based checklist demonstrates that additional collecting and a critical examination of Missouri specimens is needed before an accurate assessment about the diversity and distribution of liverworts and hornworts in the state can be made. Although counties located in the Ozark Interior Highlands have been more thoroughly collected than those located in the Glaciated Plains and Mississippi River Alluvial Plain, new liverwort and hornwort records are to be expected thoughout the state. Currently, no county has been adequately collected enough to accurately determine species composition or richness. The high taxonomic diversity reported from Franklin, Ste. Genevieve and Shannon counties may simply be an artifact of the intensive collecting efforts conducted in those counties. In contrast, little to no research has been conducted on the liverworts and hornworts of the Glaciated Plains and Mississippi River Alluvial Plain. Additional collecting in those regions will likely change the existing county-level distribution trends. It is hoped that this consolidated list of references and vouchers will stimulate additional research on Missouri liverworts and hornworts by highlighting the under-collected taxa and counties in the state.

LITERATURE-BASED CHECKLIST OF MISSOURI LIVERWORTS AND HORNWORTS

This checklist is arranged alphabetically by genus, with the family name provided in parentheses. Within each genus, the species and subspecific taxa are arranged alphabetically. Relevant synonyms, county-level distributions, specimen citations, and literature

Figure 3. Labeled county map of Missouri.

references are also provided. After each taxon, the reported counties of distribution are listed alphabetically in boldface (a reference map of Missouri counties is given in Fig. 3), followed by the collector and collection number in italics, and a literature citation. For each literature citation, the corresponding reference or references are given in parentheses, except when a collector and collection number is not cited in the original source. In those cases, only the reference is provided. Occasional notes are given for some taxa; these are indicated with an asterisk preceding the county. Nomenclature for the liverwort families and genera follows Crandall-Stotler et al. (2008). Species and infraspecific nomenclature for the liverworts mostly follows Stotler and Crandall-Stotler (1977), except for some deviations and modifications that are cited in the checklist. The nomenclature for the hornwort families, genera, and species follows Stotler and Crandall-Stotler (2005).

LIVERWORTS (MARCHANTIOPHYTA)

Aneura Dumort. (Aneuraceae)

A. maxima (Schiffn.) Steph.—**Bollinger:** *Brant 5703* (Darigo, 2008). **Madison:** *Brant 5523* (Darigo, 2004). **Shannon:** *Brant & Hickey 5910* (Darigo, 2008). **Washington:** *Brant 5694* (Darigo, 2008).

A. pinguis (L.) Dumort.—**s. loc.:** Thomas (1974). **Bollinger:** *Brant 5257* (Darigo, 2004a). **Boone:** *Drew 379* (Drew, 1940); Gier (1955); Schuster (1992). **Carter:** *Timme 9888* (Timme, 1991); Timme and Redfearn (2012). **Crawford:** *Brant 5533* (Darigo, 2004a). **Dent:** *Brant 5540* (Darigo, 2004a). **Douglas:** *Holmberg 150* (Darigo, 2004a). **Franklin:** *Holmberg 547* (Darigo, 2004a). **Iron:** *Brant 4907* (Darigo, 2002). **Jefferson:** *Redfearn 18381* (Timme, 1991). **Mississippi:** *Doolen 465-B* (Doolen, 1984). **Montgomery:** Gier (1955); Schuster (1992). **New Madrid:** Gier (1955); Schuster (1992). **Reynolds:** *Horton 25648* (Vitt and Horton, 1990). **Ste. Genevieve:** *Brant 5295* (Darigo, 2004a). **Shannon:** Gier (1955); *Horton 25702* (Vitt and Horton, 1990); *Timme 9898* (Timme, 1991); Schuster (1992). **Washington:** *Holmberg 6* (Darigo, 2000).

Asterella P. Beauv. (Aytoniaceae)

A. echinella (Gottsche) Underw.—***Pike:** Pech (1897). ***Note:** Pech's report of *A. elegans* (Spreng.) Trevis. appears to be based on a misdetermination since that species is restricted to the Caribbean (Bischler-Causse et al., 2005). The specimen is likely referable to the closely allied *A. echinella*, which has been reported from Arkansas and Texas (Evans, 1920; Schuster, 1992; Timme and Redfearn, 1997, 2012). Unfortunately, Pech's specimens were destroyed in a fire (Bush, 1916).

A. elegans (Spreng.) Trevis.—Likely referable to *Asterella echinella*, fide Bischler-Causse et al. (2005).

A. tenella (L.) P. Beauv.—**s. loc.:** Underwood (1895); *Demetrio s.n.* (Evans and Nichols, 1908); Frye and Clark (1937); Thomas (1974). **Benton:** Gier (1955). **Butler:** Gier (1955). **Camden:** Timme and Redfearn (2012). **Crawford:** *Brant 5564* (Darigo, 2004a). **Dent:** *Holmberg 529* (Darigo, 2004a). **Dunklin:** *Bush 7* (Evans, 1920); Schuster (1992a). **Franklin:** *Emig 1007* (Evans, 1920); Conard (1946); Schuster (1992a);

Holmberg 363 (Darigo, 2004a). **Gasconade:** *Holmberg 718* (Darigo, 2008). **Henry:** *Harris 37* (Darigo, 2004a). **Jefferson:** Gier (1955). **Madison:** *Allen s.n.* (Evans, 1920); Schuster (1992a); *Holmberg 553* (Darigo, 2004a). **Marion:** Gier (1955). **Miller:** Gier (1955). **Newton:** Gier (1955). **Perry:** *Demetrio 12* (Evans, 1920); Schuster (1992a); Timme and Redfearn (2012). **Phelps:** *Holmberg 522* (Darigo, 2004a). **Polk:** Timme and Redfearn (2012). **St. Clair:** Gier (1955); *Liverw. Hornw. Interior Highlands Exsic. 1* (Atwood and Brinda, 2013). **St. Francois:** *Allen 25007* (Darigo, 2004a). **St. Louis:** Nelson (1911); Gier (1955). **Ste. Genevieve:** *Brant & O'Donnell 5313* (Darigo, 2004a). **Scott:** *Holmberg 2070* (Darigo, 2008). **Texas:** *Holmberg 526* (Darigo, 2004a). **Warren:** *Holmberg 187* (Darigo, 2004a). **Washington:** *Brant 5481* (Darigo, 2004a).

Bazzania Gray (Lepidoziaceae)

B. trilobata var. *trilobata* (L.) Gray—**s. loc.:** Thomas (1974). **Dade:** Timme and Redfearn (2012). **Pike:** Pech (1897). **Ste. Genevieve:** *Vitt 8* (Vitt, 1967); *Liverw. Hornw. Interior Highlands Exsic. 2* (Atwood and Brinda, 2013).

Blepharostoma (Dumort.) Dumort. (Pseudolepicoleaceae)

B. trichophyllum (L.) Dumort.—**Franklin:** Gier (1955); Thomas (1974).

Calypogeia Raddi (Calypogeiaceae)

C. fissa (L.) Raddi—Referable to *Calypogeia neogaea*, fide Bakalin (2007).

C. muelleriana (Schiffn.) Müll. Frib.—**St. Clair:** *Liverw. Hornw. Interior Highlands Exsic. 11* (Atwood and Brinda, 2013a). **Ste. Genevieve:** *Stotler 1458*, *1473*, *1474*; *Vitt 4266* (Stotler and Vitt, 1972).

C. neogaea (R.M. Schust.) Bakalin—**s. loc.:** Schuster (1969). **Bollinger:** *Holmberg 1111* (Darigo, 2008). **Cedar:** *Smith & Eulinger 4073* (Darigo, 2008). **Dent:** *Brant & O'Donnell 4965* (Darigo, 2002). **Franklin:** *Holmberg 472* (Darigo, 2004a). **Iron:** *Brant 5199* (Darigo, 2002). **Jefferson:** *Holmberg 1360* (Darigo, 2008). **Maries:** *Holmberg 546* (Darigo, 2004a). **Reynolds:** *Ellison 1267*, *1268* (Ellison, 1962). **Ste.**

Genevieve: *Vitt 16*, *96*, *567*, *619* (Vitt, 1967). **Shannon:** *Timme 9899* (Timme, 1991); Timme and Redfearn (2012). **Stoddard:** *Smith 4392* (Darigo, 2008). **Stone:** Timme and Redfearn (2012).

C. sullivantii Austin—**Ste. Genevieve:** *Redfearn 13755* (Redfearn, 1964); *Vitt 107* (Vitt, 1967).

C. trichomanis (L.) Corda—***Dunklin:** Gier (1955). ***Jefferson:** Timme and Redfearn (2012). ***St. Clair:** Timme and Redfearn (2012). ***Vernon:** Gier (1955). ***Note:** Stotler and Crotz (1983) consider specimens of *C. trichomanis* from North America to represent misdeterminations of specimens belonging to *C. muelleriana* or *C. azurea* Stotler and Crotz.

Cephalozia (Dumort.) Dumort. (Cephaloziaceae)

C. bicuspidata (L.) Dumort.—**Reynolds:** *Ellison 1268*, *1273* (Ellison, 1962).

C. catenulata (Huebener) Lindb. = *Fuscocephaloziopsis catenulata*, fide Váňa et al. (2013).

C. connivens (Dicks.) Lindb. = *Fuscocephaloziopsis connivens*, fide Váňa et al. (2013).

C. lunulifolia (Dumort.) Dumort. = *Fuscocephaloziopsis lunulifolia*, fide Váňa et al. (2013).

Cephaloziella Douin (Cephaloziellaceae)

C. divaricata (Sm.) Schiffn.—**s. loc.:** Thomas (1974). **Franklin:** Timme and Redfearn (2012). **Reynolds:** *Ellison 1267* (Ellison, 1962). **St. Louis:** Nelson (1911). **Ste. Genevieve:** *Vitt 124* (Vitt, 1967). **Washington:** *Liverw. Hornw. Interior Highlands Exsic. 12* (Atwood and Brinda, 2013a).

C. hampeana (Nees) Schiffn.—**s. loc.:** Thomas (1974). ***St. Louis:** Nelson (1911); Schuster (1980). ***Scott:** Gier (1955); Schuster (1980). ***Shannon:** Gier (1955); Schuster (1980). ***Note:** Schuster (1980, p. 141) cites the St. Louis, Scott, and Shannon County reports as doubtful.

C. rubella (Nees) Warnst.—**Barry:** Timme and Redfearn (2012). **Franklin:** *Holmberg 1108* (Darigo, 2008). **Newton:** Timme and Redfearn (2012). **Shannon:** *Timme 9896* (Timme, 1991); Timme and Redfearn (2012). **Taney:** *Holmberg 1475* (Darigo, 2008).

Chiloscyphus Corda (Lophocoleaceae)

C. coadunatus (Sw.) R.M. Schust. & J.J. Engel—**s. loc.:** Thomas (1974). **Camden:** Gier (1955). **Carter:** Gier (1955); *Timme 9877*, *9880*, *9887* (Timme, 1991). **Franklin:** *Darigo & Clauson 3007* (Darigo, 1998). **Iron:** *Brant 4989* (Darigo, 2002). **Ste. Genevieve:** *Vitt 114* (Vitt, 1967). **Shannon:** Gier (1955). **Stoddard:** Gier (1955). **Texas:** Gier (1955).

C. cuspidatus (Nees) J.J. Engel & R.M. Schust.—**s. loc.:** Thomas (1974). **Carter:** *Timme 9874* (Timme, 1991); Timme and Redfearn (2012). **Reynolds:** Timme and Redfearn (2012). **Shannon:** Timme and Redfearn (2012).

C. cuspidatus fo. *alatus* (Gottsche, Lindenb. & Nees) J. J. Engel & R.M. Schust.—**Reynolds:** *Redfearn 13908* (Redfearn, 1964); Thomas (1974).

C. minor (Nees) J.J. Engel & R.M. Schust.—**Texas:** *Redfearn 5496* (Redfearn, 1960); Thomas (1974).

C. pallescens (Ehrh.) Dumort.—**s. loc.:** Thomas (1974). **Bollinger:** *Holmberg 2268* (Darigo, 2008). **Boone:** *Drew 3727*, *19838*, *19938* (Drew, 1940); Gier (1955); Schuster (1980). **Crawford:** *Holmberg 1422* (Darigo, 2008). **Franklin:** *Holmberg 908* (Darigo, 2008). **Gasconade:** *Holmberg 712* (Darigo, 2008). **Jefferson:** *Holmberg 1665* (Darigo, 2008). **Reynolds:** *Brant & O'Donnell 5075* (Darigo, 2002). **Ripley:** *Brant 6014* (Darigo, 2008). **St. Louis:** *Musci. Amer., S. States 165* (Wilson, 1841); Evans (1912a); Frye and Clark (1943); Schuster (1980); Timme and Redfearn (2012). **Ste. Genevieve:** *Vitt 88* (Vitt, 1967); *Brant 5299* (Darigo, 2004a). **Shannon:** Gier (1955). **Stoddard:** *Holmberg 2265* (Darigo, 2008). **Warren:** *Holmberg 1619* (Darigo, 2008). **Washington:** *Holmberg 937* (Darigo, 2008).

C. pallescens var. *fragilis* (Roth) Müll. Frib.—**s. loc.:** Thomas (1974). **Camden:** Gier (1955). **Shannon:** Gier (1955).

C. polyanthos (L.) Corda—**s. loc.:** Evans and Nichols (1908); Frye and Clark (1943); Gier (1955). **Franklin:** *Holmberg 1337* (Darigo, 2008).

C. profundus (Nees) J.J. Engel & R.M. Schust.—**s. loc.:** Thomas (1974); Schuster (1980). **Barry:** Gier (1955); *Hilton s.n.* (Hilton, 1986). **Benton:** Timme and Redfearn (2012). **Bollinger:** *Darigo & Darigo 3095* (Darigo, 1999). **Boone:** *Drew B377*, *3737*, *16337* (Drew, 1940); Frye and Clark

(1943); Gier (1955). **Butler:** Gier (1955). **Callaway:** *Darigo & Vanderbilt 1958* (Darigo, 1998). **Camden:** Gier (1955); *Fuller 79*, *80* (Fuller, 1986). **Carter:** Gier (1955). **Cole:** Gier (1955). **Cooper:** Gier (1955). **Crawford:** *Holmberg 1420* (Darigo, 2008). **Dent:** Gier (1955). **Douglas:** *Holmberg 151* (Darigo, 2004a). **Gasconade:** *Holmberg 715* (Darigo, 2008). **Iron:** Gier (1955); *Holmberg 3765* (Holmberg and Atwood, 2014). **Jackson:** Gier (1955). **Jasper:** Gier (1955). **Jefferson:** *Holmberg 1362* (Darigo, 2008). **Madison:** Gier (1955). **Maries:** *Holmberg 415* (Darigo, 2004a). **Miller:** Gier (1955). **Mississippi:** Gier (1955); *Doolen 499-B* (Doolen, 1984). **New Madrid:** Gier (1955). **Newton:** Gier (1955). **Oregon:** Timme and Redfearn (2012). **Perry:** *Holmberg 1147* (Darigo, 2008). **St. Charles:** *Holmberg 260* (Darigo, 2004a). **St. Francois:** Timme and Redfearn (2012). **St. Louis:** Nelson (1911); Gier (1955). **Ste. Genevieve:** Gier (1955); *Vitt 103*, *112*, *117c* (Vitt, 1967). **Shannon:** Gier (1955); *Timme 9904* (Timme, 1991). **Stoddard:** Gier (1955). **Taney:** Gier (1955). **Warren:** *Holmberg 695* (Darigo, 2008). **Washington:** *Holmberg 590* (Darigo, 2008). **Wayne:** *Summers & Brant 8702A* (Darigo, 2000). **Webster:** Gier (1955).

C. rivularis (Schrad.) Hazsl.—**Shannon:** Gier (1955); Thomas (1974).

Cololejeunea (Spruce) Schiffn. (Lejeuneaceae)

C. biddlecomiae (Austin) A. Evans—**s. loc.:** Thomas (1974). **Boone:** *Drew 3725*, *11237*, *11337* (Drew, 1940); Frye and Clark (1947). **Carter:** *Ellison 1255* (Ellison, 1962). **Christian:** Timme and Redfearn (2012). **Crawford:** *Holmberg 1184* (Darigo, 2008). **Dallas:** Timme and Redfearn (2012). **Franklin:** *Holmberg 1334* (Darigo, 2008). **Iron:** *Holmberg 4013*, *4014*, *4203* (Holmberg and Atwood, 2014). **Moniteau:** *Holmberg 315* (Darigo, 2004a). **Reynolds:** *Ellison 1273* (Ellison, 1962). **St. Charles:** *Holmberg 1371* (Darigo, 2008). **St. Louis:** *Holmberg 2164* (Darigo, 2008). **Ste. Genevieve:** *Vitt 112* (Vitt, 1967). ***Shannon:** Schuster (1980); *Timme 9891* (Timme, 1991); Timme and Redfearn (2012). **Taney:** *Holmberg 1463* (Darigo, 2008). **Washington:** *Holmberg 924* (Darigo, 2008). **Webster:** *Holmberg 1206* (Darigo, 2008). ***Note:** Schuster (1966, p. 1265) erroneously

cited a Shannon County specimen, without collector or number, from Arkansas.

Conocephalum F.H. Wigg. (Conocephalaceae)

C. conicum (L.) Underw.—Referable to *Conocephalum salebrosum*, fide Szweykowski et al. (2005).

C. salebrosum Szweyk., Buczkowska & Odrzykoski—**s. loc.:** Underwood (1895); Frye and Clark (1937); Thomas (1974); Thomas and Jackson (1985); Orzell (1984). **Barry:** 7 Sep. 1898, *Trelease s.n.* (Redfearn, 1981); *Hilton s.n.* (Hilton, 1986). **Benton:** Gier (1955). **Bollinger:** Gier (1955); *Harris 24* (Darigo, 2000). **Boone:** Gier (1955). **Callaway:** *Holmberg 270* (Darigo, 2004a). **Camden:** Gier (1955); Redfearn (1981); *Fuller 346*; *Redfearn 12589*, *29885*, *30100*, *30138* (Fuller, 1986). **Carter:** Gier (1955); 9 Sep. 1897, *Trelease s.n.* (Redfearn, 1981); *Timme 9873* (Timme, 1991). **Cole:** Gier (1955). **Crawford:** *Brant 5564A* (Darigo, 2004a). **Daviess:** Gier (1955). **Dent:** Timme and Redfearn (2012). **Douglas:** Redfearn (1981); *Allen 21670* (Darigo, 2000). **Franklin:** *Holmberg 1345* (Darigo, 2008). **Gasconade:** *Holmberg 52.* (Darigo, 2002). **Iron:** Redfearn (1981); *Brant & O'Donnell 4935* (Darigo, 2002). **Jackson:** Gier (1955). **Jefferson:** Gier (1955). **Laclede:** Redfearn (1981); Timme and Redfearn (2012). **Madison:** *Brant & O'Donnell 5286* (Darigo, 2004a). **Newton:** Redfearn (1981). **Oregon:** Gier (1955); Timme and Redfearn (2012). **Ozark:** Redfearn (1981); Timme and Redfearn (2012). **Perry:** *Holmberg 1148* (Darigo, 2008). **Phelps:** Gier (1955); Redfearn (1981). **Polk:** Timme and Redfearn (2012). **Pulaski:** Steyermark (1941); Redfearn (1981); Timme and Redfearn (2012). **Reynolds:** Redfearn (1981); *Brant & O'Donnell 4869A* (Darigo, 2002). **Ripley:** Timme and Redfearn (2012). **St. Charles:** *Darigo & Holmberg 3311* (Darigo, 2000). **St. Louis:** Nelson (1911); Gier (1955). **Ste. Genevieve:** *Vitt 120* (Vitt, 1967); Gier (1955). **Saline:** Gier (1955). **Shannon:** Gier (1955); Redfearn (1981); *Timme 9902* (Timme, 1991). **Taney:** Gier (1955). **Texas:** Gier (1955). **Warren:** *Miramontes s.n.* (Darigo, 2008).

Crossogyna (R.M. Schust.) Schljakov (Jamesoniellaceae)

C. autumnalis (DC.) Schljakov—**s. loc.:** Evans and Nichols (1908); Frye and Clark (1943); Thomas (1974). **Franklin:** *Holmberg 7* (Darigo, 2000). **Iron:** *Atwood 1968*; *Holmberg 4016* (Holmberg and Atwood, 2014). **Jefferson:** *Holmberg 1564* (Darigo, 2008). **Pike:** Pech (1897). **Polk:** Timme and Redfearn (2012). **Ste. Genevieve:** *Vitt 798*, *801* (Vitt, 1967); *Liverw. Hornw. Interior Highlands Exsic. 13* (Atwood and Brinda, 2013a). **Shannon:** *Redfearn 8501* (Redfearn, 1962). **Washington:** *Brant 5151* (Darigo, 2002).

Diplophyllum (Dumort.) Dumort. (Scapaniaceae)

D. apiculatum (A. Evans) Steph.—**s. loc.:** Thomas (1974). **Carter:** Timme and Redfearn (2012). **Jefferson:** *Holmberg 2087* (Darigo, 2008). **Lincoln:** *Steyermark s.n.* (Schuster, 1974). **Oregon:** Timme and Redfearn (2012). **Ozark:** Timme and Redfearn (2012). **Ste. Genevieve:** *Vitt 454*, *532*, *608* (Vitt, 1967); *Steyermark s.n.* (Schuster, 1974). **Shannon:** Timme and Redfearn (2012). **Texas:** *Redfearn 8354* (Redfearn, 1962).

Dumortiera Nees (Dumortieraceae)

D. hirsuta (Sw.) Nees—**s. loc.:** Underwood (1895); Evans (1919a); *Shepard s.n.* (Frye and Clark, 1937); Thomas (1974). **Carter:** Redfearn (1981). **Oregon:** Gier (1955); Redfearn (1981). **Ozark:** *Steyermark 4722* (Redfearn, 1981). **St. Louis:** 1907, *Nelson s.n.* (Schuster, 1992a). **Shannon:** Gier (1955); *Steyermark 70995* (Redfearn, 1981).

Fossombronia Raddi (Fossombroniaceae)

F. brasiliensis Steph. = *Fossombronia porphyrorhiza*, fide Stotler and Crandall-Stotler (2010).

F. porphyrorhiza (Nees) Prosk.—**s. loc.:** Thomas (1974). **Crawford:** *Brant 6296* (Darigo, 2008). **Franklin:** *Holmberg 587* (Darigo, 2008). **Iron:** *Holmberg 3933* (Holmberg and Atwood, 2014). **Jefferson:** *Holmberg 521* (Darigo, 2004a). **Lawrence:** *Holmberg 664* (Darigo, 2008). **Maries:** *Holmberg 544* (Darigo, 2004a). **Phelps:** *Holmberg 523* (Darigo, 2004a). **Texas:** *Holmberg 525* (Darigo, 2004a). **Vernon:** *Redfearn 4686* (Redfearn, 1964).

Frullania Raddi (Frullaniaceae)

F. asagrayana Mont.—**s. loc.:** Thomas (1974). **Madison:** Steyermark (1941); Gier (1955). **Ste. Genevieve:** Gier (1955); *Vitt 575* (Vitt, 1967); *Liverw. Hornw. Interior Highlands Exsic. 14* (Atwood and Brinda, 2013a).

F. brittoniae A. Evans—**s. loc.:** Thomas (1974). **Barry:** *Hilton s.n.* (Hilton, 1986). **Boone:** *Drew 3729* (Drew, 1940); Frye and Clark (1947) Schuster (1992). **Iron:** *Holmberg 3837* (Holmberg and Atwood, 2014). **Laclede:** Timme and Redfearn (2012). **Lawrence:** Timme and Redfearn (2012). **Madison:** Timme and Redfearn (2012). **Miller:** Timme and Redfearn (2012). **Perry:** *Holmberg 1781* (Darigo, 2008). **Reynolds:** *Ellison 1261* (Ellison, 1962). **St. Charles:** Timme and Redfearn (2012). **Ste. Genevieve:** *Vitt 121* (Vitt, 1967). **Warren:** Timme and Redfearn (2012).

F. eboracensis Gottsche—**s. loc.:** Thomas (1974). **Audrain:** *Holmberg & Poninski 932* (Darigo, 2008). **Barry:** *Hilton s.n.* (Hilton, 1986). **Bollinger:** Gier (1955). **Boone:** *Drew B273* (Zirkle et al., 1930); Gier (1955); Frye and Clark (1947); Schuster (1992). **Buchanan:** Gier (1955). **Callaway:** Gier (1955). **Camden:** Gier (1955); *Redfearn 7363, 7376, 29878, 30040* (Fuller, 1986). **Cape Girardeau:** Gier (1955). **Carroll:** *Holmberg 607* (Darigo, 2008). **Carter:** Gier (1955); *Timme 9892* (Timme, 1991). **Cedar:** Timme and Redfearn (2012). **Clark:** Gier (1955). **Clay:** Gier (1955). **Clinton:** Gier (1955). **Cole:** *Holmberg 1385* (Darigo, 2008). **Crawford:** *Holmberg 912* (Darigo, 2008). **Dade:** Gier (1955). **Dunklin:** Gier (1955). **Franklin:** *Holmberg & Younkin 186* (Darigo, 2004a). **Holt:** Gier (1955). **Howell:** Gier (1955). **Iron:** Gier (1955); *Atwood 1867*; *Holmberg 3734* (Holmberg and Atwood, 2014). **Jackson:** Gier (1955). **Jasper:** Gier (1955). **Jefferson:** *Darigo 3806* (Darigo, 2002); *Holmberg 519* (Darigo, 2004a). **Laclede:** *Holmberg 2162* (Darigo, 2008). **Lawrence:** *Holmberg 661* (Darigo, 2008). **Linn:** Gier (1955). **Madison:** Gier (1955); *Darigo & Darigo 3089* (Darigo, 1999). **Maries:** *Holmberg 414* (Darigo, 2004a). **McDonald:** Gier (1955). **Miller:** *Holmberg 916* (Darigo, 2008). **Mississippi:** Gier (1955); *Doolen 502-B* (Doolen, 1984). **Montgomery:** *Darigo & Darigo 3064* (Darigo, 1998). **Newton:** Gier (1955). **Oregon:** Gier (1955). **Ozark:**

Holmberg 430 (Darigo, 2004a). **Pemiscot:** Gier (1955). **Phelps:** Gier (1955). **St. Charles:** *Darigo & Darigo 3273* (Darigo, 2001). **St. Francois:** *Holmberg 551* (Darigo, 2004a). **St. Louis:** Nelson (1911); Gier (1955). **Ste. Genevieve:** *Vitt 542, 579, 790, 793* (Vitt, 1967). **Schuyler:** *Smith & Gremaud 4272* (Darigo, 2008). **Scott:** Gier (1955). **Shannon:** Gier (1955). **Stoddard:** Gier (1955). **Taney:** Gier (1955). **Texas:** Gier (1955). **Warren:** *Holmberg 651* (Darigo, 2008). **Webster:** Gier (1955).

F. ericoides (Nees) Nees—**s. loc.:** Thomas (1974). **Barry:** *Hilton s.n.* (Hilton, 1986). **Bollinger:** Gier (1955). **Cape Girardeau:** Gier (1955). ***Carter:** Gier (1955); *Timme 9862, 9865, 9868, 9875* (Timme, 1991); *Anderson 12349* (Schuster, 1992). **Franklin:** Gier (1955). **Greene:** *Conard 40-989* (Schuster, 1992). **Osage:** Gier (1955). **Ste. Genevieve:** *Vitt 29, 104, 672* (Vitt, 1967). **Shannon:** Gier (1955); *Timme 9892* (Timme, 1991). **Stoddard:** Gier (1955). **Texas:** Gier (1955). **Wayne:** *Darigo 3267* (Darigo, 2001). ***Note:** Schuster (1966, p. 233) erroneously cited the Carter County specimen, without collector or number, from Arkansas.

F. inflata Gottsche—**s. loc.:** Thomas (1974); Thomas and Jackson (1985). **Barry:** *Redfearn s.n.*; *Thomas s.n.* (Hilton, 1986). **Bollinger:** Gier (1955). **Butler:** Gier (1955). **Callaway:** Gier (1955). **Camden:** Gier (1955); *Fuller 48, 175*; *Redfearn 7516, 10710, 10761, 10811* (Fuller, 1986). **Cape Girardeau:** Gier (1955). **Carter:** Gier (1955); *Timme 9870, 9889* (Timme, 1991). **Cedar:** Timme and Redfearn (2012). **Clark:** Gier (1955). **Clay:** Gier (1955). **Clinton:** Gier (1955). **Cooper:** Gier (1955). **Crawford:** *Holmberg 507* (Darigo, 2004a). **Dade:** Gier (1955). **Daviess:** Gier (1955). **Douglas:** *Holmberg 410* (Darigo, 2004a). **Dunklin:** Gier (1955). **Franklin:** Gier (1955); *Darigo 3032* (Darigo, 1998). **Greene:** Gier (1955). **Henry:** Gier (1955). **Holt:** Gier (1955). **Howell:** *Holmberg 137* (Darigo, 2004a). **Jackson:** Gier (1955). **Jasper:** Gier (1955). **Jefferson:** Gier (1955). **Johnson:** Gier (1955). **Lafayette:** *Holmberg 604* (Darigo, 2008). **Lincoln:** *Darigo 3996* (Darigo, 2004a). **Linn:** Gier (1955). **Madison:** *Holmberg 283* (Darigo, 2004a). **Mississippi:** *Doolen 475-B, 479-B* (Doolen, 1984). **Moniteau:** *Holmberg 309* (Darigo, 2004a). **Newton:** Gier (1955). **Pemiscot:** Gier (1955). **Perry:**

Holmberg 1114 (Darigo, 2008). **Phelps:** *Holmberg 118* (Darigo, 2004a). **St. Charles:** *Darigo & Darigo 3082* (Darigo, 1999). **St. Francois:** *Holmberg 944* (Darigo, 2008). **St. Louis:** Conard (1946); Gier (1955). **Ste. Genevieve:** Gier (1955); *Vitt 81* (Vitt, 1967). **Saline:** Gier (1955). **Shannon:** *Timme 9901*, *9907* (Timme, 1991). **Shelby:** Gier (1955). **Stoddard:** Gier (1955). **Taney:** Gier (1955). **Texas:** *Holmberg 412* (Darigo, 2004a). **Warren:** *Holmberg 701* (Darigo, 2008). **Washington:** *Holmberg 1545* (Darigo, 2008).

F. kunzei Lehm. & Lindenb.—**Douglas:** *Redfearn 9006* (Redfearn, 1963); Thomas (1974). **St. Clair:** *Liverw. Hornw. Interior Highlands Exsic. 3* (Atwood and Brinda, 2013).

F. plana Sull.—**Barry:** *Hilton s.n.* (Hilton, 1986).

F. riparia Hampe—**s. loc.:** Thomas (1974); Thomas and Jackson (1985). **Barry:** Gier (1955); *Hilton s.n.* (Hilton, 1986). **Boone:** Gier (1955). **Butler:** Gier (1955). **Callaway:** *Holmberg 276* (Darigo, 2004a). **Camden:** *Fuller 47*; *Redfearn 7323*, *10746*, *12759*, *30120*, *30125* (Fuller, 1986); Timme and Redfearn (2012). **Cape Girardeau:** Gier (1955). *__Carter:__ Gier (1955); *Timme 9881* (Timme, 1991); *Anderson 12349A* (Schuster, 1992). **Christian:** Timme and Redfearn (2012). **Clay:** Gier (1955). **Clinton:** Gier (1955). **Cole:** *Holmberg 1396* (Darigo, 2008). **Crawford:** *Holmberg 570* (Darigo, 2008). **Dade:** Gier (1955). **Daviess:** Gier (1955). **Franklin:** Gier (1955). **Greene:** Gier (1955). **Iron:** Gier (1955); *Holmberg 3746* (Holmberg and Atwood, 2014). **Jackson:** Gier (1955). **Jefferson:** *Holmberg 691* (Darigo, 2008). **Maries:** *Holmberg 417* (Darigo, 2004a). **Oregon:** *Holmberg 2241* (Darigo, 2008). **Ozark:** *Holmberg 433* (Darigo, 2004a). **Reynolds:** *Atwood 2020* (Holmberg and Atwood, 2014). **St. Charles:** *Holmberg 261* (Darigo, 2004a). **St. Clair:** Gier (1955). **St. Louis:** Conard (1946); Gier (1955). **Ste. Genevieve:** Gier (1955); *Vitt 618* (Vitt, 1967). **Scott:** *Holmberg 1770* (Darigo, 2008). **Shannon:** Timme and Redfearn (2012). **Stone:** Gier (1955). **Taney:** Gier (1955); *Holmberg 1464* (Darigo, 2008); *Redfearn 39838* (King et al., 2012). **Warren:** *Holmberg 699* (Darigo, 2008). **Washington:** *Holmberg 1529* (Darigo, 2008). *__Note:__ Schuster (1992, p. 181) erroneously cited the Carter County specimen, without collector or number, from Arkansas.

F. squarrosa Gottsche = *Frullania ericoides*, fide Grolle (1968).

Fuscocephaloziopsis Fulford (Cephaloziaceae)

F. catenulata (Huebener) Váňa & L. Söderstr.—**Ste. Genevieve:** *Liverw. Hornw. Interior Highlands Exsic. 9* (Atwood and Brinda, 2013).

F. connivens (Dicks.) Váňa & L. Söderstr.—**Ste. Genevieve:** *Stotler 1453*, *1489* (Stotler and Vitt, 1972).

F. lunulifolia (Dumort.) Váňa & L. Söderstr.—**s. loc.:** Thomas (1974). **Franklin:** Gier (1955); Schuster (1974). **Jefferson:** *Holmberg 1173* (Darigo, 2008). **Ste. Genevieve:** *Vitt 117*, *119*, *610* (Vitt, 1967). **Shannon:** Gier (1955); Schuster (1974). **Vernon:** Gier (1955); Schuster (1974); Hong (1988).

Geocalyx Nees (Geocalycaceae)

G. graveolens (Schrad.) Nees—**Ste. Genevieve:** *Redfearn 13772*, *13951* (Redfearn, 1964); *Vitt 113* (Vitt, 1967); Thomas (1974); *Liverw. Hornw. Interior Highlands Exsic. 4* (Atwood and Brinda, 2013).

Isopaches H. Buch (Anastrophyllaceae)

I. bicrenatus (Schmidel) H. Buch—**s. loc.:** Thomas (1974). **Howell:** *Redfearn 7438*, *9139* (Redfearn, 1962, 1964). **Laclede:** *Redfearn 13055* (Redfearn, 1964). **Shannon:** *Redfearn 7422*, *7407* (Redfearn, 1962, 1964). **Washington:** *Redfearn 25599* (Bakalin, 2011).

Jubula Dumort. (Jubulaceae)

J. pennsylvanica (Steph.) A. Evans—**Cape Girardeau:** *Holmberg & Baer 2101* (Darigo, 2008). **Carter:** *Timme 9885* (Timme, 1991). **Franklin:** 1931, *Steyermark s.n.* (Guerke, 1978); Schuster (1992). **Ste. Genevieve:** *Redfearn 13779*, *13784*, *13964* (Redfearn, 1964); *Vitt 111*, *586* (Vitt, 1967); Thomas (1974); 1968, *Sharp s.n.* (Guerke, 1978); Schuster (1992). **Scott:** *Holmberg 2062* (Darigo, 2008).

Jamesoniella (Spruce) Carrington (Jamesoniellaceae)

J. autumnalis (DC.) Steph. = *Crossogyna autumnalis*, fide Schljakov (1975).

Jungermannia L. (Jungermanniaceae)

J. crenulata Sm. = *Solenostoma gracillimum* fo. *crenulatum*, fide Bakalin (2012).

J. crenuliformis Austin = *Plectocolea crenuliformis*, fide Schuster (1969).

J. leiantha Grolle—**s. loc.:** Thomas (1974). **Boone:** Gier (1955); **Carter:** *Ellison 1257* (Ellison, 1962). **Ste. Genevieve:** Redfearn (1964).

Kurzia G. Martens (Lepidoziaceae)

K. setacea (Weber) Grolle—**s. loc.:** Thomas (1974). **Douglas:** *Redfearn 9041* (Redfearn, 1962). **Ste. Genevieve:** *Stotler 1447* (Stotler and Vitt, 1972).

K. sylvatica (A. Evans) Grolle, **Ste. Genevieve:** *Redfearn 13752* (Redfearn, 1964); *Vitt 92*, *115*, *803* (Vitt, 1967); Thomas (1974).

Lejeunea Lib. (Lejeuneaceae)

L. cavifolia (Ehrh.) Lindb.—**Iron:** Gier (1955); Thomas (1974).

Leiocolea (Müll. Frib.) H. Buch (Jungermanniaceae)

L. badensis (Gottsche.) Jørg. = *Mesoptychia badensis*, fide Váňa et al. (2012).

Leucolejeunea A. Evans (Lejeuneaceae)

L. clypeata (Schwein.) A. Evans—**s. loc.:** *Russell s.n.* (Evans, 1902); Frye and Clark (1947); Thomas (1974); Schuster (1980). **Bollinger:** Gier (1955). **Iron:** Gier (1955); *Atwood 1976*; *Holmberg 3865* (Holmberg and Atwood, 2014). **Jefferson:** *Holmberg 2155* (Darigo, 2008). **Madison:** Gier (1955). **Reynolds:** *Atwood 2018* (Holmberg and Atwood, 2014). **Ste. Genevieve:** *Vitt 802* (Vitt, 1967); *Liverw. Hornw. Interior Highlands Exsic. 5* (Atwood and Brinda, 2013). **Shannon:** *Timme 9905* (Timme, 1991); Timme and Redfearn (2012). **Wayne:** Timme and Redfearn (2012).

L. unciloba (Lindenb.) A. Evans—**Oregon:** *Redfearn 14004* (Redfearn, 1964); Thomas (1974).

Lophocolea (Dumort.) Dumort. (Lophocoleaceae)

L. bidentata (L.) Dumort. = *Chiloscyphus coadunatus*, fide Söderström et al. (2010).

L. cuspidata (Nees) Limpr. = *Chiloschyphus cuspidatus*, fide Engel and Schuster (1984).

L. cuspidata fo. *alata* (Gottsche, Lindenb. & Nees) R. M. Schust. = *Chiloscyphus cuspidatus* fo. *alatus*, fide Engel and Schuster (1984).

L. heterophylla (Schrad.) Dumort. = *Chiloscyphus profundus*, fide Engel and Schuster (1984).

L. minor Nees = *Chiloscyphus minor*, fide Engel and Schuster (1984).

Lophozia (Dumort.) Dumort. (Scapaniaceae)

L. badensis (Gottsche) Schiffner = *Mesoptychia badensis*, fide Váňa et al. (2012).

L. bicrenata (Schmidel) Dumort. = *Isopaches bicrenatus*, fide Schljakov (1980).

L. incisa (Schrad.) Dumort. = *Schistochilopsis incisa*, fide Bakalin (2011).

Lunularia Adans. (Lunulariaceae)

L. cruciata (L.) Dumort.—**s. loc.:** Thomas (1974). **Clay:** Gier (1955). **St. Louis:** Gier (1955).

Mannia Opiz (Aytoniaceae)

M. fragrans (Balb.) Frye & L. Clark—**s. loc.:** *Weller s.n.* (Underwood, 1895); Thomas (1974). **Barry:** *Redfearn s.n.* (Hilton, 1986). **Boone:** *Drouet 1639* (Drew, 1940); Gier (1955); Schuster (1992a). **Clay:** Gier (1955). **Franklin:** *Holmberg 5* (Darigo, 2000). **Pike:** Pech (1897). **St. Louis:** Nelson (1911); J. *H. K. 54* (Frye and Clark, 1937); Gier (1955); *Liverw. Hornw. Interior Highlands Exsic. 6* (Atwood and Brinda, 2013).

M. triandra (Scop.) Grolle—**s. loc.:** Evans (1923); Frye and Clark (1937); Gier (1955); Thomas (1974); Schuster (1992a). **Camden:** *Fuller 32* (Fuller, 1986); Timme and Redfearn (2012). **Howell:** Timme and Redfearn (2012). **McDonald:** Timme and Redfearn (2012). **Shannon:** *Timme 9894* (Timme, 1991); Timme and Redfearn (2012).

Marchantia L. (Marchantiaceae)

M. aquatica (Nees) Burgeff = *M. polymorpha* subsp. *polymorpha*, fide Bischler-Causse and Boisselier-Dubayle (1991).

M. polymorpha L. sensu stricto = *Marchantia polymorpha* subsp. *ruderalis*, fide Bischler-Causse and Boisselier-Dubayle (1991).

M. polymorpha subsp. *polymorpha* L.—**Reynolds:** *Brant 5595* (Darigo, 2004a). **Washington:** *Brant 5528* (Darigo, 2004).

M. polymorpha subsp. *ruderalis* Bischl. & Boissel.-Dub.—**s. loc.:** Thomas (1974); Thomas and Jackson (1985). **Barry:** Gier (1955); Redfearn (1981). **Camden:** Gier (1955); Redfearn (1981); *Redfearn 10824* (Fuller, 1986). **Carter:** Gier (1955); Redfearn (1981). **Clay:** Gier (1955). **Dent:** Redfearn (1981); Timme and Redfearn (2012). **Douglas:** Timme and Redfearn (2012). **Franklin:** *Holmberg 1141* (Darigo, 2008). **Greene:** Gier (1955); Redfearn (1981). **Holt:** Gier (1955). **Iron:** Timme and Redfearn (2012). **Jefferson:** Gier (1955). **Laclede:** Redfearn (1981); Timme and Redfearn (2012). **Oregon:** Gier (1955). **Ozark:** Redfearn (1981); Timme and Redfearn (2012). **Phelps:** Redfearn (1981); Timme and Redfearn (2012). **Pike:** Pech (1897). **Reynolds:** Gier (1955); Redfearn (1981). **St. Louis:** Nelson (1911); Gier (1955). **Ste. Genevieve:** *Holmberg 15* (Darigo, 2001). **Saline:** *Darigo & Darigo 2707* (Darigo, 1998). **Shannon:** Gier (1955); Redfearn (1981). **Sullivan:** *Darigo & Sullivan 3400* (Darigo, 2000). **Texas:** *Smith et al. 3747* (Darigo, 2002). **Warren:** *Holmberg 1620* (Darigo, 2008). **Washington:** *Holmberg 1520* (Darigo, 2008).

Marsupella Dumort. (Gymnomitriaceae)

M. sphacelata (Gieseke) Dumort.—Referable to *Marsupella sullivantii*, fide Schuster (1974).

M. sullivantii (De Not.) A. Evans—**St. Francois:** *Solomon 21324* (Darigo, 2002). **Ste. Genevieve:** *Redfearn 13762*, *13950* (Redfearn, 1964); *Vitt 26*, *511*, *547*, *598* (Vitt, 1967); Thomas (1974).

Mesoptychia (Lindb.) A. Evans (Jungermanniaceae)

M. badensis (Gottsche) L. Söderstr. & Váňa—**Reynolds:** *Redfearn 13902* (Redfearn, 1964); Thomas (1974).

Metzgeria Raddi (Metzgeriaceae)

M. conjugata Lindb.—**s. loc.:** Thomas (1974). **Madison:** Gier (1955); Schuster (1992). **Reynolds:** Timme and Redfearn (2012). **Ste. Genevieve:** *Stotler 1479*; *Vitt 1191*, *4247* (Stotler and Vitt, 1972); *Liverw. Hornw. Interior Highlands Exsic. 15* (Atwood and Brinda, 2013a). **Shannon:** Gier (1955); Schuster (1992). **Wayne:** Timme and Redfearn (2012).

M. furcata (L.) Corda—Referable to *Metzgeria furcata* var. *ulvula*, fide Schuster (1992).

M. furcata var. *ulvula* Nees—**Carter:** *Timme 9886* (Timme, 1991); Timme and Redfearn (2012). **Iron:** *Atwood 1972*; *Holmberg 4012* (Holmberg and Atwood, 2014); *Liverw. Hornw. Interior Highlands Exsic. 7* (Atwood and Brinda, 2013). **Madison:** *Redfearn 13604* (Redfearn, 1964); Thomas (1974).

Nardia Gray (Solenostomataceae)

N. lescurii (Austin) Underw.—**Ste. Genevieve:** *Redfearn 13763* (Redfearn, 1964); *Vitt 94*, *98*, *456* (Vitt, 1967); Thomas (1974).

Nowellia Mitt. (Cephaloziaceae)

N. curvifolia (Dicks.) Mitt.—**s. loc.:** Thomas (1974). **Carter:** *Timme 9884* (Timme, 1991); Timme and Redfearn (2012). **Dallas:** Timme (1991). **Ste. Genevieve:** *Stotler 1480*; *Vitt 4270* (Stotler and Vitt, 1972). **Shannon:** *Drew 51* (Redfearn, 1960).

Odontoschisma (Dumort.) Dumort. (Cephaloziaceae)

O. prostratum (Sw.) Trevis.—**s. loc.:** Thomas (1974). **Franklin:** Gier (1955); Frye and Clark (1947); Schuster (1974). **Jefferson:** *Holmberg 1573* (Darigo, 2008). **Madison:** *Russell s.n.* (Evans, 1903); Schuster (1974). **Ste. Genevieve:** *Vitt 510*, *517* (Vitt, 1967). **Stoddard:** *Summers & Galvin 9550B* (Darigo, 2001). **Vernon:** Gier (1955); Schuster (1974).

Oxymitra Bisch. (Oxymitraceae)

O. incrassata (Brot.) Sérgio & Sim-Sim—**Henry:** *Smith 4205* (Smith and Timme, 2006); Smith (2006). **St. Clair:** Timme

and Redfearn (2012); *Liverw. Hornw. Interior Highlands Exsic. 8* (Atwood and Brinda, 2013).

O. paleacea Bisch. = *O. incrassata*, fide Sérgio & Sim-Sim (1989).

Pallavicinia Gray (Pallaviciniaceae)

P. lyellii (Hook.) Carruth.—**s. loc.:** Thomas (1974). **Bollinger:** *Brant & Lee 4279* (Darigo, 2000). **Crawford:** *Holmberg 1425* (Darigo, 2008). **Dunklin:** Gier (1955); Schuster (1992). **Franklin:** Gier (1955); Schuster (1992). **Jefferson:** *Holmberg 1067* (Darigo, 2008). **Mississippi:** Gier (1955); Schuster (1992). **Newton:** Gier (1955); Schuster (1992). **Ste. Genevieve:** Gier (1955); *Vitt 97*, *99*, *581*, *600* (Vitt, 1967); Schuster (1992). **Stoddard:** *Summers & Galvin 9550A* (Darigo, 2001).

Pellia Raddi (Pelliaceae)

P. endiviifolia (Dicks.) Dumort.—***Ste. Genevieve:** *Stotler 1421*; *Vitt 4231* (Stotler and Vitt, 1972). ***Note:** Schuster (1992, p. 448) considers specimens of *P. endiviifolia* from eastern North American to be based on misdeterminations of *P. epiphylla* and *P. neesiana* (Gottsche) Limpr.

P. epiphylla (L.) Corda—**s. loc.:** Thomas (1974). **Bollinger:** *Brant 5425* (Darigo, 2004a). **Crawford:** *Brant 5432* (Darigo, 2004a). **Gasconade:** *Holmberg 53* (Darigo, 2002). **Greene:** Timme and Redfearn (2012). **Jefferson:** *Holmberg 2193* (Darigo, 2008). **St. Charles:** *Harris 40* (Darigo, 2004a). **St. Francois:** *Solomon 21323* (Darigo, 2002). **St. Louis:** *Holmberg 86* (Darigo, 2004a). **Ste. Genevieve:** Gier (1955); *Vitt 105*, *589* (Vitt, 1967); Schuster (1992).

Plagiochasma Lehm. & Lindenb. (Aytoniaceae)

P. wrightii Sull.—**Clay:** *Gier 1179* (McGregor, 1955); Schuster (1992a).

Plagiochila (Dumort.) Dumort. (Plagiochilaceae)

P. asplenioides (L.) Dumort.—Referable to *Plagiochila porelloides*, fide Stotler and Crandall-Stotler (1977).

P. porelloides (Torr.) Lindenb.—**s. loc.:** Thomas (1974). **Boone:** Gier (1955). **Camden:** Gier (1955). **Carter:** Gier (1955);

Redfearn (1981); *Timme 9871* (Timme, 1991). **Dent:** Redfearn (1981). **Douglas:** *Holmberg 148* (Darigo, 2004a). **Franklin:** Timme and Redfearn (2012); Schuster (1980). **Iron:** Gier (1955). **Jefferson:** *Holmberg 132* (Darigo, 2004a). **Lincoln:** Schuster (1980). **Madison:** Gier (1955). **Reynolds:** Redfearn (1981). **St. Charles:** Schuster (1980). **St. Clair:** Gier (1955). **Ste. Genevieve:** Gier (1955); *Vitt s.n.* (Vitt, 1967); *Liverw. Hornw. Interior Highlands Exsic. 16* (Atwood and Brinda, 2013a). **Shannon:** Gier (1955); Timme and Redfearn (2012). **Washington:** *Holmberg 1785* (Darigo, 2008).

P. undata Sull.—**Douglas:** *Redfearn 9563*, *10575* (Redfearn, 1964); Thomas (1974).

Plectocolea (Mitt.) Mitt. (Solenostomataceae)

P. crenuliformis (Austin) Mitt.—**Dade:** *Redfearn 7008* (Redfearn, 1961); Thomas (1974). **Jefferson:** *Holmberg 2258* (Darigo, 2008).

Porella L. (Porellaceae)

P. pinnata L.—**s. loc.:** Thomas (1974); Thomas and Jackson (1985). **Barry:** *Bush s.n.* (Hilton, 1986). **Bollinger:** *Brant 4679* (Darigo, 2001, 2001a). **Butler:** Gier (1955). **Camden:** Gier (1955). **Carter:** Gier (1955); Redfearn (1981); *Timme 9860*, *9867* (Timme, 1991). **Crawford:** Gier (1955). **Dent:** Redfearn (1981). **Douglas:** Redfearn (1981); *Holmberg 143* (Darigo, 2004a). **Iron:** *Brant 4875* (Darigo, 2002); *Holmberg 3761*, *3860*, *3888* (Holmberg and Atwood, 2014). **Laclede:** Redfearn (1981). **Madison:** Gier (1955). **Maries:** Steyermark (1941); Redfearn (1981). **Mississippi:** Gier (1955); *Doolen 487-B* (Doolen, 1984). **New Madrid:** Gier (1955). **Newton:** Gier (1955). **Oregon:** Gier (1955); Redfearn (1981). **Ozark:** Redfearn (1981). **Jasper:** *Bush 5398* (Schuster, 1980). **Pemiscot:** *Shoop 14* (Schuster, 1980). **Perry:** 1892, *Demetrio s.n.* (Schuster, 1980). **Phelps:** Gier (1955); Redfearn (1981). **Pulaski:** Steyermark (1941); Redfearn (1981). **Reynolds:** Redfearn (1981); *Atwood 2016*; *Holmberg 3981*, *3992* (Holmberg and Atwood, 2014). **St. Francois:** *Solomon 21322* (Darigo, 2002). **St. Louis:** Nelson (1911); Conard (1946); Gier (1955). **Ste. Genevieve:** Gier (1955). **Shannon:** Gier

(1955); Redfearn (1981); *Timme 9903*, *9910* (Timme, 1991). **Stoddard:** Gier (1955). **Taney:** Gier (1955). **Washington:** *Brant 5091* (Darigo, 2002). **Wayne:** Steyermark (1941); *Steyermark 6365* (Schuster, 1980); Redfearn (1981).

P. platyphylla (L.) Pfeiff.—**s. loc.:** Evans and Nichols (1908); Thomas (1974); Thomas and Jackson (1985). **Audrain:** *Holmberg & Poninski 935* (Darigo, 2008). **Barry:** *Bush s.n.*; *Redfearn s.n.*; *Thomas s.n.* (Hilton, 1986). **Butler:** Gier (1955). **Callaway:** *Holmberg 272* (Darigo, 2004a). **Camden:** *Holmberg 117* (Darigo, 2004a). **Cape Girardeau:** Gier (1955). **Cedar:** Timme and Redfearn (2012). **Clay:** Gier (1955). **Crawford:** *Holmberg 1187* (Darigo, 2008). **Dunklin:** Gier (1955). **Franklin:** *Holmberg 125* (Darigo, 2004a). **Gasconade:** *Holmberg 714* (Darigo, 2008). **Hickory:** Timme and Redfearn (2012). **Iron:** *Brant 4920* (Darigo, 2002); *Atwood 1977*; *Holmberg 3748*, *3861*, *4008*, *4086* (Holmberg and Atwood, 2014). **Lafayette:** Gier (1955). **Madison:** *Darigo 3712* (Darigo, 2002). **McDonald:** Gier (1955). **New Madrid:** Gier (1955). **Newton:** Timme and Redfearn (2012). **Oregon:** Gier (1955). **Osage:** Gier (1955). **Perry:** *Holmberg 2073* (Darigo, 2008). **Pike:** Pech (1897). **St. Charles:** *Holmberg 262* (Darigo, 2004a). **St. Louis:** Nelson (1911); *Holmberg 22* (Darigo, 2002). **Ste. Genevieve:** *Vitt 82* (Vitt, 1967). **Scott:** *Holmberg 1768*, *2061* (Darigo, 2008). **Shannon:** Gier (1955); *Timme 9893* (Timme, 1991). **Stoddard:** Gier (1955). **Taney:** *Holmberg 1483* (Darigo, 2008). **Warren:** *Holmberg 700* (Darigo, 2008). **Washington:** *Darigo 3103* (Darigo, 1999).

P. platyphylloidea (Schwein.) Lindb.—**s. loc.:** Thomas (1974). **Bollinger:** Gier (1955). **Boone:** Gier (1955). **Butler:** Gier (1955). **Camden:** Gier (1955); *Fuller 141*; *Redfearn 7365*, *10705* (Fuller, 1986). **Cape Girardeau:** Gier (1955). **Carter:** Gier (1955); *Timme 9864* (Timme, 1991). **Christian:** Gier (1955). **Clay:** Gier (1955). **Clinton:** Gier (1955). **Cole:** Gier (1955). **Daviess:** Gier (1955). **Dent:** Gier (1955). **Franklin:** Conard (1946). **Iron:** *Russell 4* (Evans, 1916); Schuster (1980). **Jasper:** Gier (1955). **Jefferson:** Gier (1955). **McDonald:** Gier (1955). **New Madrid:** Gier (1955). **Oregon:** Gier (1955). **Ozark:** Gier (1955). **Reynolds:** Gier (1955). **St. Clair:** Gier (1955). **St. Louis:** *Musci. Amer., S.*

States (Wilson, 1841); *Nelson CC*, *15*, *820*, *1616*, *770½* (Evans, 1916); Gier (1955); Schuster (1980). **Stoddard:** Gier (1955). **Taney:** Gier (1955).

Preissia Corda (Marchantiaceae)

P. quadrata (Scop.) Nees—**s. col.:** Thomas (1974). **Camden:** *Redfearn 10770* (Fuller, 1986); Timme and Redfearn (2012). **Douglas:** *Holmberg 146* (Darigo, 2004a). **Iron:** *Brant 5237* (Darigo, 2002). **Jefferson:** Gier (1955); Schuster (1992a). **Oregon:** *Myers s.n.* (Gier, 1955). **Shannon:** *Holmberg 286* (Darigo, 2004a). **Warren:** *Holmberg 1618* (Darigo, 2008). **Washington:** *Holmberg 1789* (Darigo, 2008).

Ptilidium Nees (Ptilidiaceae)

P. pulcherrimum (G. Web.) Hampe—**Lincoln:** *Allen 7835* (Darigo, 1999). **Phelps:** *Redfearn 8817* (Redfearn, 1962); Thomas (1974); Timme and Redfearn (2012).

Radula Dumort. (Radulaceae)

R. australis Austin—**Texas:** *Sharp M706* (Redfearn, 1970); Thomas (1974).

R. complanata (L.) Dumort.—**s. loc.:** Thomas (1974). **Barry:** Timme and Redfearn (2012). **Boone:** *Drew 374*, *11737*, *11837* (Drew, 1940); Gier (1955); Schuster (1980). **Callaway:** *Holmberg 275* (Darigo, 2004a). **Carter:** Gier (1955); Schuster (1980). **Franklin:** *Holmberg 909* (Darigo, 2008). **Howell:** *Holmberg 136* (Darigo, 2004a). **Iron:** *Atwood 1981* (Holmberg and Atwood, 2014). **Jefferson:** Timme and Redfearn (2012). **McDonald:** *Holmberg & Darigo 49* (Darigo, 2002). **Ozark:** *Holmberg 431* (Darigo, 2004a). **St. Francois:** *Liverw. Hornw. Interior Highlands Exsic. 17* (Atwood and Brinda, 2013a). **Ste. Genevieve:** Gier (1955); *Vitt 36* (Vitt, 1967); Schuster (1980). **Shannon:** Gier (1955); Schuster (1980). **Taney:** *Holmberg 1491* (Darigo, 2008). **Warren:** *Holmberg 1606* (Darigo, 2008). **Washington:** *Holmberg 305* (Darigo, 2004a).

R. mollis Lindenb. & Gottsche = *Radula quadrata*, fide Yamada and Gradstein (1991).

R. obconica Sull.—**s. loc.:** Thomas (1974). **Carter:** *Timme 9898* (Timme, 1991); Timme and Redfearn (2012). **Douglas:**

Holmberg 142 (Darigo, 2004a). **Iron:** *Atwood 1966*; *Holmberg 3889*, *4206* (Holmberg and Atwood, 2014). **Jefferson:** *Holmberg 1099* (Darigo, 2008). **Ozark:** *Redfearn 14107* (Redfearn, 1964). **Reynolds:** *Holmberg 4159* (Holmberg and Atwood, 2014). **Ste. Genevieve:** *Redfearn 13982* (Redfearn, 1964); *Vitt 93*, *100* (Vitt, 1967). **Shannon:** *Holmberg 287* (Darigo, 2004a).

R. quadrata Gottsche—**Oregon:** *Clebsch s.n.* (Gier, 1955); Thomas (1974).

Reboulia Raddi (Aytoniaceae)

R. hemisphaerica (L.) Raddi—**s. loc.:** Underwood (1895); Frye and Clark (1937); Thomas and Jackson (1985); Schuster (1992a). **Barry:** *Hilton s.n.* (Hilton, 1986). **Benton:** Gier (1955). **Boone:** Gier (1955). **Butler:** Gier (1955). **Callaway:** *Holmberg 271* (Darigo, 2004a). **Camden:** Gier (1955); *Redfearn 10717*, *10828*, *29866*, *30107*; *Fuller 27* (Fuller, 1986). **Carter:** Gier (1955); *Timme 9874* (Timme, 1991). **Cedar:** *Smith & Eulinger 4072* (Darigo, 2008). **Clark:** *Darigo et al. 2276* (Darigo, 1998). **Crawford:** *Holmberg 1125* (Darigo, 2004a). **Dent:** Gier (1955). **Douglas:** *Holmberg 141* (Darigo, 2004a). **Franklin:** Gier (1955); *Holmberg 4* (Darigo, 2000). **Howard:** Gier (1955). **Howell:** *Smith & Summers 4342* (Darigo, 2008). **Iron:** *Holmberg 957B* (Darigo, 2008); *Holmberg 3821* (Holmberg and Atwood, 2014). **Jackson:** Gier (1955). **Jefferson:** Gier (1955). **Lafayette:** *Holmberg 602* (Darigo, 2008). **Linn:** Gier (1955); Timme and Redfearn (2012). **McDonald:** Gier (1955). **Ozark:** Gier (1955). **Perry:** Gier (1955). **Phelps:** *Holmberg 119* (Darigo, 2004a). **Pike:** Pech (1897). **St. Charles:** *Holmberg 517* (Darigo, 2004a). **St. Francois:** Gier (1955). **St. Louis:** Nelson (1911); Conard (1946); Gier (1955); *Darigo 2466* (Darigo, 1998). **Shannon:** Gier (1955). **Shelby:** Gier (1955). **Warren:** *Holmberg 1605* (Darigo, 2008). **Washington:** *Holmberg 1530* (Darigo, 2008).

Rectolejeunea A. Evans (Lejeuneaceae)

R. maxonii A. Evans—***Carter:** *Anderson 12409* (Schuster, 1980).

***Note:** Schuster (1980, p. 1134) erroneously cited this specimen from Arkansas.

Riccardia Gray (Aneuraceae)

R. multifida (L.) Gray—**Carter:** *Timme 9869* (Timme, 1991); Timme and Redfearn (2012). **Ste. Genevieve:** *Redfearn 25411* (Redfearn, 1970); Thomas (1974).

R. palmata (Hedw.) Carruth.—**Stoddard:** Thomas (1974); *Redfearn 27839*, *28633* Thomas and Redfearn (1976); Redfearn (1981).

Riccia L. (Ricciaceae)

R. austinii Steph.—**St. Clair:** *Redfearn 33575B* (Darigo, 2008).

R. beyrichiana Hampe—**s. loc.:** Howe (1923); Frye and Clark (1937); Thomas (1974); Schuster (1992a). **Barry:** McGregor (1960); Timme and Redfearn (2012). **Boone:** Gier (1955). **Butler:** Gier (1955). **Clay:** Gier (1955). **Franklin:** Gier (1955). **Henry:** Gier (1955). **Moniteau:** *Redfearn 18348* (Darigo, 2008). **Platte:** Gier (1955). **Pulaski:** *Trelease s.n.* (Darigo, 2008). **St. Clair:** *Redfearn 32538* (Darigo, 2008). **St. Francois:** Timme and Redfearn (2012). **St. Louis:** Gier (1955). **Saline:** Gier (1955).

R. bifurca Hoffm.—**Dade:** Timme and Redfearn (2012).

R. cavernosa Hoffm.—***Barry:** *Bush 820* (Darigo, 2008). ***Dunklin:** *Trelease s.n.* (Darigo, 2008). **Platte:** *Castaner 3969* (Darigo, 2008). ***Shannon:** *Drew 63*, *77* (Redfearn, 1960); Thomas (1974); Schuster (1992a); Timme and Redfearn (2012). ***Taney:** *Bush 10* (Darigo, 2008). **Texas:** *Emig 1002* (Darigo, 2008). ***Note.** Specimens from Barry, Dunklin, Shannon, and Taney County have been reported in the literature as *R. crystallina* L. Most reports of *R. crystallina* from North America are based on misdeterminations of *R. cavernosa* (Jovet-Ast, 1965), although good representative material of *R. crystallina* has been documented from California (Stotler and Doyle, 2004).

R. dictyospora M. Howe—**s. loc.:** Thomas (1974). **St. Clair:** *Redfearn 28535* (Darigo, 2008).

R. fluitans L.—**s. loc.:** Thomas (1974); Thomas and Jackson (1985). **Barry:** 1897, *Dometres s.n.* (Frye and Clark, 1937); Schuster (1992a); Timme and Redfearn (2012). **Butler:** Gier (1955). ***Camden:** Gier (1955). **Clay:** Gier (1955). **Dunklin:** *Darigo & Sullivan 3231* (Darigo, 1999). **Franklin:** *Holmberg*

223 (Darigo, 2004a). **Howell:** Timme and Redfearn (2012). **Lawrence:** Steyermark (1941); Gier (1955); Redfearn (1981); *Palmer 6302, 6311* (Schuster, 1992a). **Newton:** Gier (1955). **Oregon:** Steyermark (1941); Gier (1955); Redfearn (1981); *Redfearn 12098* (Darigo, 2008). **Osage:** Timme and Redfearn (2012). **Pemiscot:** Gier (1955). ***Phelps:** Timme and Redfearn (2012). **Platte:** Gier (1955). **Ripley:** Timme and Redfearn (2012). **St. Clair:** Gier (1955). **Scott:** *Smith et al. 3928A* (Darigo, 2004a). **Shannon:** Gier (1955). **Stoddard:** Gier (1955). **Stone:** Timme and Redfearn (2012). ***Texas**: Timme and Redfearn (2012). ***Note:** Specimens previously reported from Camden, Phelps, and Texas County were annotated by Darigo (2008) as *R. stenophylla*.

R. frostii Austin—**s. loc.:** Thomas (1974). **Carroll:** *Steyermark s.n.* (Darigo, 2008). **Clay:** Gier (1955); Schuster (1992a). **Dade:** *Redfearn 36912* (Darigo, 2008). **Jackson:** Gier (1955); Schuster (1992a). **St. Charles:** *Demetrio 5* (Underwood, 1894); Evans (1917); Frye and Clark (1937); Gier (1955); Schuster (1992a). **Shannon:** Gier (1955); Schuster (1992a).

R. glauca L.—**Boone:** *Drew 375* (Drew, 1940); Schuster (1992a). **Pike:** Pech (1897).

R. glauca var. *ciliaris* Warnst.—***s. loc.:** Howe (1923); Schuster (1992a). ***Note:** Howe (1923) reported *R. glauca* var. *subinermis* Warnst. from Missouri without locality. Schuster (1992a, p 634) later repeated this report and noted that the varietal name *ciliaris* had priority as the older name.

R. hirta (Austin) Underw.—**s. loc.:** Thomas (1974). **Barry:** *Bush s.n.* (Darigo, 2008). **Butler:** *Russell 19* (Darigo, 2008). **Dade:** *Redfearn 36910* (Darigo, 2008). **Douglas:** *Redfearn 29442* (Darigo, 2008). **Franklin:** *Anderson s.n.* (Darigo, 2008). **Henry:** *Timme s.n.* (Darigo, 2008). **Newton:** Gier (1955); Schuster (1992a). **Oregon:** Timme and Redfearn (2012). **Texas:** Timme and Redfearn (2012).

R. macallisteri M. Howe—**Barry:** Timme and Redfearn (2012). **St. Louis:** *Nelson 1895* (Evans, 1910, 1912, 1922); Nelson (1911); Howe (1917); Frye and Clark (1937); Thomas (1974); Schuster (1992a); *Liverw. Hornw. Interior Highlands Exsic. 18* (Atwood and Brinda, 2013a).

R. membranacea Gottsche & Lindenb.—**s. loc.:** Underwood (1894); Frye and Clark (1937); Thomas (1974); Schuster

(1992a). **Benton:** Gier (1955); Schuster (1992a). **Butler:** Gier (1955); Schuster (1992a). **Stoddard:** Gier (1955); Schuster (1992a).

R. nigrella DC.—**Dunklin:** *Steyermark 428* (Darigo, 2008).

R. ozarkiana R.L. McGregor—**Barry:** *McGregor 14981* (McGregor, 1960); Thomas (1974); Hilton (1986); Schuster (1992a).

R. rhenana Lorb.—**s. loc.:** Thomas (1974); Schuster (1992a). **Clay:** Gier (1955). **Newton:** Gier (1955). **Platte:** Gier (1955). **St. Clair:** Gier (1955). **Shannon:** Gier (1955).

R. sorocarpa Bisch.—**s. loc.:** Underwood (1894); Thomas (1974). **Barry:** Timme and Redfearn (2012). **Boone:** Gier (1955); Schuster (1992a). **Dade:** Timme and Redfearn (2012). **Newton:** Timme s.n. (Darigo, 2008). **Pemiscot:** Gier (1955); Schuster (1992a). **St. Louis:** Conard (1946).

R. stenophylla Spruce—**Bollinger:** *Holmberg 2287* (Darigo, 2008). **Butler:** *Newman s.n.* (Darigo, 2008). **Camden:** Redfearn (1981); *Redfearn 10820* (Fuller, 1986); Darigo (2008). **Clay:** *MacKenzie 385A* (Darigo, 2008). **Cole:** *Shorton s.n.* (Darigo, 2008). **Dallas:** *Ladd 5933* (Darigo, 2008). **Dent:** *Woodson s.n.* (Darigo, 2008). **Dunklin:** *Trelease s.n.* (Darigo, 2008). **Howell:** *Summers 10210* (Darigo, 2008). **Jackson:** *Bush s.n.* (Darigo, 2008). **Jefferson:** *Holmberg 2256* (Darigo, 2008). **Johnson:** *Redfearn 17867* (Darigo, 2008). **Lawrence:** *Smith 3564* (Darigo, 2008). **Lincoln:** *Holmberg 1838* (Darigo, 2008). **Mercer:** *Summers & Yatskievych 8774* (Darigo, 1999). **Mississippi:** *Smith 2286* (Darigo, 2008). **Newton:** *Ladd 5690* (Darigo, 2008). **Oregon:** *Summers 10184* (Darigo, 2008). **Phelps:** *Steyermark 21156* (Redfearn, 1981); Darigo (2008); Timme and Redfearn (2012). **Platte:** *Castaner 7251* (Darigo, 2008). **Ripley:** *Hudson s.n.* (Darigo, 2000). **St. Charles:** *Woodson 25* (Darigo, 2008). **St. Clair:** *Redfearn 33207* (Darigo, 2008). **St. Louis:** *Engelmann s.n.* (Darigo, 2008). **Shannon:** *Smith 4177* (Darigo, 2008). **Stone:** *Redfearn 9619* (Darigo, 2008). **Texas:** *Steyermark 14554* (Darigo, 2008). **Warren:** *Holmberg 652* (Darigo, 2008). **Wayne:** *Thomas 72* (Darigo, 2008).

R. sullivantii Austin—**s. loc.:** Thomas (1974). **Bollinger:** *Brant 5702* (Darigo, 2008). **Cedar:** *Ireland 3261*, *3288*, *3423*

(Redfearn, 1961). **Franklin:** *Holmberg 1119* (Darigo, 2008). **Shannon:** Timme and Redfearn (2012).

Ricciocarpos Corda (Ricciaceae)

R. natans (L.) Corda—**s. loc.:** Thomas (1974). **Bollinger:** *Holmberg 2266* (Darigo, 2008). **Butler:** *Russell 18* (Darigo, 2008). **Clay:** Gier (1955); Schuster (1992a). **Cole:** *Holmberg 1392* (Darigo, 2008). **Crawford:** *Darigo & Clauson 4195* (Darigo, 2008). **Franklin:** *Holmberg 27* (Darigo, 2002). **Greene:** Timme and Redfearn (2012). **Holt:** *Holmberg 619* (Darigo, 2008). **Howell:** *Harris 23* (Darigo, 2000). **Jackson:** *Bush 18* (Darigo, 2008). **Jefferson:** *Summers et al. 9632* (Darigo, 2001). **Lincoln:** *Darigo 2731* (Darigo, 1998). **Mercer:** *Summers & Yatskievych 8775* (Darigo, 1999). **Mississippi:** *Doolen 491-B, 466-B* (Doolen, 1984). **Oregon:** Timme and Redfearn (2012). **Ozark:** Steyermark (1941); Redfearn (1981); Timme and Redfearn (2012). **Perry:** *Holmberg 2071* (Darigo, 2008). **Pike:** *Darigo & Darigo 2783* (Darigo, 1998). **Platte:** Gier (1955); Schuster (1992a). **Ripley:** Steyermark (1941); Redfearn (1981); Timme and Redfearn (2012). **St. Charles:** *Darigo & Sullivan 1952* (Darigo, 1998). **St. Clair:** *Redfearn 26681* (Darigo, 2008). **St. Louis:** Nelson (1911); Frye and Clark (1937); Gier (1955); *Nelson 15801* (Schuster, 1992a). **Ste. Genevieve:** *Trelease s.n.* (Darigo, 2008). **Scott:** *Holmberg 2060* (Darigo, 2008). **Stoddard:** Timme and Redfearn (2012). **Texas:** Steyermark (1941); Redfearn (1981); Timme and Redfearn (2012). **Warren:** *Darigo & Sullivan 3489* (Darigo, 2000).

Scapania (Dumort.) Dumort. (Scapaniaceae)

S. curta (Mart.) Dumort.—***St. Louis:** Nelson (1911). ***Note:** Nelson's (1911) report of *S. curta* is outside the expected range for this species in eastern North America (Schuster, 1974). The presence of a border of thick-walled cells on the dorsal lobe, subentire leaf margins, and 2-celled gemmae are suggestive of *S. nemorosa* '*nemorea*' fo. *whitehouseae*.

S. nemorea (L.) Grolle—**s. loc.:** Thomas (1974); Schuster (1974). **Barry:** *Hilton s.n.* (Hilton, 1986). **Bollinger:** *Brant & Lee 4278* (Darigo, 2000). **Camden:** *Fuller 65* (Fuller, 1986); Timme and Redfearn (2012). **Dunklin:** *Summers et al. 9232*

(Darigo, 2000). **Franklin:** Gier (1955) *Steyermark 15* (Schuster, 1974). **Iron:** *Holmberg 3756*, *3863*, *3894*, *4103* (Holmberg and Atwood, 2014). **Jefferson:** Timme and Redfearn (2012). **Madison:** *Holmberg 284* (Darigo, 2004a). **Phelps:** *Holmberg 530* (Darigo, 2004a). **Reynolds:** *Atwood 2030* (Holmberg and Atwood, 2014). **St. Francois:** Gier (1955); *Liverw. Hornw. Interior Highlands Exsic. 19* (Atwood and Brinda, 2013a). **St. Louis:** Nelson (1911). **Ste. Genevieve:** *Vitt 109*, *574* (Vitt, 1967); *Steyermark 92*, *98* (Schuster, 1974). **Shannon:** Gier (1955). **Shelby:** *Darigo & Vaáánderbilt 2300* (Darigo, 1998). **Stoddard:** Gier (1955). **Vernon:** Gier (1955). **Washington:** *Holmberg 938* (Darigo, 2008).

S. nemorosa '*nemorea*' fo. *whitehouseae* R.M. Schust.—**Ste. Genevieve:** *Vitt 534*, *606* (Vitt, 1967). **Vernon:** *Shoop 246* (Schuster, 1974).

S. undulata (L.) Dumort.—**s. loc.:** Evans and Nichols (1908); Thomas (1974). **Carter:** Gier (1955). **Franklin:** *Holmberg 1410* (Darigo, 2008). **Madison:** Gier (1955). **Taney:** Gier (1955). **Texas:** *Holmberg 527* (Darigo, 2004a).

Schistochilopsis (N. Kitag.) Konstant. (Scapaniaceae)

S. incisa (Schrad.) Konstant.—**Ste. Genevieve:** *Atwood 1601*, *1722* (Atwood, 2011).

Solenostoma Mitt. (Solenostomataceae)

S. crenulatum Mitt. = *Solenostoma gracillimum* fo. *crenulatum*, fide Bakalin (2012).

S. crenuliformis (Austin) Steph. = *Plectocolea crenuliformis*, fide Schuster (1969).

S. gracillimum fo. *crenulatum* (Sm.) Bakalin—**Barton:** *Redfearn 11315* (Redfearn, 1963); Thomas (1974); Bakalin (2012).

S. hyalinum (Lyell) Mitt.—**s. loc.:** *Savage & Stull 139* (Schuster, 1969). **Franklin:** *Nelson 2024* (Evans, 1919); Frye and Clark (1943); Gier (1955); Schuster (1969); Thomas (1974). **St. Clair:** *Liverw. Hornw. Interior Highlands Exsic. 20* (Atwood and Brinda, 2013a).

S. pumilum (With.) Müll. Frib.—**St. Clair:** Timme and Redfearn (2012). **Vernon:** *Redfearn 12958* (Redfearn, 1964).

Sphaerocarpos Boehm. (Sphaerocarpaceae)

S. michelii Bellardi—**Newton:** *McGregor s.n.* (Gier, 1955); Thomas (1974). **Pike:** Pech (1897).

S. texanus Austin—**s. loc.:** Haynes and Howe (1923); Thomas (1974). **Bollinger:** *Brant 5275* (Darigo, 2004a). **Boone:** Gier (1955); Schuster (1992). **Clay:** Gier (1955); Schuster (1992). **Dade:** Timme and Redfearn (2012). **Franklin:** *Holmberg 124* (Darigo, 2004a). **Jefferson:** *Holmberg & Harris 1583* (Darigo, 2008). **Perry:** *Holmberg 1145* (Darigo, 2008). **St. Louis:** Conard (1946); Timme and Redfearn (2012); Schuster (1992). **Shannon:** Gier (1955); Schuster (1992). **Warren:** *Darigo & Sullivan 3100* (Darigo, 1999).

Trichocolea Dumort. (Trichocoleaceae)

T. tomentella (Ehrh.) Dumort.—**s. loc.:** Thomas (1974). **Camden:** *Hicks 1*; *Fuller 344*, *349* (Fuller, 1986); Timme and Redfearn (2012). **Carroll:** Gier (1955). **Carter:** Gier (1955); *Timme 9872* (Timme, 1991). **Crawford:** *Brant 5494* (Darigo, 2004a). **Dent:** Redfearn (1981); Timme and Redfearn (2012). **Douglas:** Gier (1955); *Allen 20244* (Darigo, 1998). **Franklin:** *Holmberg 340* (Darigo, 2008). **Howell:** Timme and Redfearn (2012). **Iron:** *Brant & O'Donnell 4925* (Darigo, 2002). **Jefferson:** *Holmberg 1066* (Darigo, 2008). **Reynolds:** *Brant & O'Donnell 4869* (Darigo, 2002). **St. Francois:** *Liverw. Hornw. Interior Highlands Exsic. 10* (Atwood and Brinda, 2013). **Ste. Genevieve:** Gier (1955); *Vitt 76* (Vitt, 1967); Schuster (1966). **Shannon:** Schuster (1966); Timme and Redfearn (2012). **Texas:** Timme and Redfearn (2012). **Warren:** Gier (1955).

HORNWORTS (ANTHOCEROTOPHYTA)

Anthoceros L. (Anthocerotaceae)

A. agrestis Paton—**s. loc.:** *Demetrio s.n.* (Howe, 1898); Thomas (1974). **Boone:** *Daniels s.n.* (Drew, 1940); Frye and Clark (1947). **Camden:** Gier (1955). **Christian:** Gier (1955). **Clay:** Gier (1955). **Franklin:** Gier (1955); *Holmberg 516* (Darigo, 2004a). **Howell:** *Holmberg 524* (Darigo, 2004a); Timme (2012). **Iron:** *Holmberg 3759* (Holmberg and Atwood, 2014).

Pemiscot: Gier (1955). **Pike:** Pech (1897). **Platte:** Gier (1955). **St. Francois:** Timme and Redfearn (2012).

A. crispulus auct. pl. = *Anthoceros agrestis*, fide Stotler and Crandall-Stotler (2005).

A. laevis L.—Referable to *Phaeoceros carolinianus*, *Phaeoceros mohrii,* or *Phaeoceros oreganus*, fide Stotler and Crandall-Stotler (2005).

A. punctatus auct. pl. = *Anthoceros agrestis*, fide Stotler and Crandall-Stotler (2005).

Notothylas Sull. (Notothyladaceae)

N. orbicularis (Schwein.) Sull.—**Johnson:** *Redfearn 17866* (Redfearn, 1966); Thomas (1974). **Mississippi:** *Doolen 801-B* (Doolen, 1984).

Phaeoceros Prosk. (Notothyladaceae)

P. carolinianus (Michx.) Prosk.—**s. loc.:** Thomas (1974). **Barry:** *Redfearn s.n.* (Hilton, 1986). **Bollinger:** *Brant 5416* (Darigo, 2004a). **Boone:** *Drew 378*, *11137*, *19037* (Drew, 1940); Schuster (1992a); Timme and Redfearn (2012). **Camden:** Gier (1955). **Cape Girardeau:** Gier (1955). **Christian:** Gier (1955). **Clay:** Gier (1955). **Clinton:** Gier (1955). **Crawford:** *Holmberg 1721* (Darigo, 2008). **Dent:** *Holmberg 528* (Darigo, 2004a). **Franklin:** Gier (1955); *Holmberg 515* (Darigo, 2004a). **Holt:** Gier (1955). **Iron:** *Holmberg 3760* (Holmberg and Atwood, 2014). **Jefferson:** *Holmberg 520* (Darigo, 2004a). **Johnson:** Gier (1955). **Lawrence:** *Holmberg 663* (Darigo, 2008). **Madison:** *Holmberg 552* (Darigo, 2004a). **Maries:** *Holmberg 545* (Darigo, 2004a). **Marion:** Timme and Redfearn (2012). **McDonald:** Gier (1955). **St. Francois:** *Holmberg 550* (Darigo, 2004a). **St. Louis:** Nelson (1911); Gier (1955). **Ste. Genevieve:** *Holmberg 658* (Darigo, 2008). **Shannon:** Gier (1955). **Stoddard:** Gier (1955); Timme and Redfearn (2012). **Taney:** Gier (1955). **Washington:** *Brant 5469* (Darigo, 2004a).

P. laevis (L.) Prosk.—Referable to *Phaeoceros carolinianus*, *Phaeoceros mohrii,* or *Phaeoceros oreganus*, fide Stotler and Crandall-Stotler (2005).

P. oreganus (Austin) Hässel—**Howell:** *Allen 22363* (Darigo, 2001).

ACKNOWLEDGMENTS

Thanks to Mary Stiffler at the Missouri Botanical Garden's Peter H. Raven Library for help obtaining copies of theses. Rex Hill parsed out an early version of this checklist into a manageable spreadsheet format and corrected formatting errors. John Brinda provided helpful discussions about classification and synonymy. Nels Holmberg, Corinne Kozlowski, Doug Ladd, and George Yatskievych offered constructive comments on the manuscript. A summary of this manuscript was presented at the 2013 Missouri Botanical Symposium at the Missouri University of Science and Technology in Rolla, MO.

LITERATURE CITED

Atwood, J. J. 2011. *Lophozia incisa* new to Missouri and the Interior Highlands. Evansia 28: 72–73.

Atwood, J. J., and J. C. Brinda. 2013. Liverworts and hornworts of the Interior Highlands Exsiccatae, Fascicle 1, Nos. 1–10. Missouri Botanical Garden, St. Louis.

———. 2013a. Liverworts and hornworts of the Interior Highlands Exsiccatae, Fascicle 2. Nos. 11–20. Missouri Botanical Garden, St. Louis, MO.

Bakalin, V. 2007. Печеночники Камчатки: итоги изучения [Liverworts of Kamchatka: the results of the study]. pp. 6–14 *in* R. S. Moses, A. M. Tokranov, and O. A. Chernyagina (eds.) Conservation of Biodiversity of Kamchatka and Adjacent Seas: Reports of the VII International Scientific Conference Devoted to the 25th Anniversary of the Organization of the Kamchatka Institute of Biology, November 28–29 2006. Kamchatpress, Petropavlovsk-Kamchatsky.

———. 2011. Notes on *Lophozia* VI. Taxonomy and distribution of *Lophozia* and *Schistochilopsis* (Lophoziaceae) in North America, north of Mexico. Bryologist 114: 298–315.

———. 2012. *Solenostoma fusiforme*: an addition to the North American liverwort flora and a review of the genus *Solenostoma* in North America, north of Mexico. Polish Bot. J. 57: 137–143.

Bischler-Causse, H., S. R. Gradstein, S. Jovet-Ast, D. G. Long, and N. S. Allen. 2005. Marchantiidae. Fl. Neotrop. 97: 1–267.

Bush, B. F. 1916. The mosses of the Pech catalog in Missouri. Bryologist 19: 52–60.

Conard, H. S. 1946. The foray of 1946, St. Louis, Mo. Bryologist 49: 96–98.

Crandall-Stotler, B., R. E. Stotler, and D. G. Long. 2008 onwards. Liverwort classification at the rank of genus and above, 24 February 2011, [http://bryophytes.plant.siu.edu/marchantiophyta.html]. Accessed 22 April 2013.

Darigo, C. E. 1998. Bryophytes from states of Arkansas, Missouri, Oklahoma and the Interior Highlands of North America, *Fontinalis sphagnifolia*, *Fontinalis welchiana* and *Weissia sharpii* new to Oklahoma, and other new county records. Evansia 15: 21–29.

———. 1999. Bryophyte records from Arkansas, Missouri, and Oklahoma. Evansia 16: 61–67.

———. 2000. Bryophytes from states of Illinois, Missouri, and Oklahoma. Evansia 17: 56–60.

———. 2001. Bryophytes of the Interior Highlands of North America: *Ephemerum serratum* and *Phaeoceros oreganos* new to Interior Highlands and Missouri, *Grimmia longirostris* new to Oklahoma, plus other county records. Evansia 18: 53–57.

———. 2001a. Bryophytes of the Interior Highlands of North America: Arkansas and Missouri new county records plus corrections. Evansia 18: 84–86.

———. 2002. Bryophytes of the Interior Highlands of North America: new Missouri and Illinois county records. Evansia 19: 162–167.

———. 2004. *Aneura maxima* (Hepaticae: Aneuraceae) and *Marchantia aquatica* (Hepaticae: Marchantiaceae) new to Missouri and Interior Highlands of North America. Evansia 21: 76–78.

———. 2004a. Bryophytes of the Interior Highlands of North America: new Arkansas, Missouri and Oklahoma records and key for *Schistidium* in Missouri. Evansia 21: 170–179.

———. 2008. *Acaulon muticum* var. *muticum* (Musci: Pottiaceae) new to Missouri and new Missouri liverwort and hornwort county records. Evansia 25: 3–7.

Doolen, W. S. O. 1984. The vascular flora of Big Oak Tree State Park, Mississippi County, Missouri. M.S. thesis, Southern Illinois University, Carbondale.

Drew, W. B. 1940. Studies on the bryophytes of Missouri I. Boone County. Bryologist 43: 4–12.

Ellison, M. L. 1962. Some additions to the hepatics of Missouri. Bryologist 65: 285–286.

Engel, J. J., and R. M. Schuster. 1984. An overview and evaluation of the genera of Geocalycaceae subfamily Lophocoleoideae. Nova Hedwigia 39: 385–445.

Evans, A. W. 1902. The Lejeuneaceae of the United States and Canada. Mem. Torrey Bot. Club 8: 113–183.

———. 1903. *Odontoschisma macounii* and its North American allies. Bot. Gaz. 36: 321–348.

———. 1910. Notes on North American Hepaticae—I. Bryologist 13: 33–36.

———. 1912. Notes on New England Hepaticae—IX. Rhodora 14: 1–18.

———. 1912a. Notes on New England Hepaticae—X. Rhodora 14: 209–225.

———. 1916. Notes on New England Hepaticae—XIII. Rhodora 18: 74–120.

———. 1917. Notes on New England Hepaticae—XIV. Rhodora 19: 263–272.

———. 1919. Notes on New England Hepaticae—XV. Rhodora 21: 149–169.

———. 1919a. A taxonomic study of *Dumortiera*. Bull. Torrey Bot. Club 46: 167–182.

———. 1920. The North American species of *Asterella*. Contr. U.S. Natl. Herb. 20: 247–312.

———. 1922. Notes on North American Hepaticae—IX. Bryologist 25: 25–33.

———. 1923. Rebouliaceae. N. Amer. Fl. 14(1): 39–56.

Evans, A. W., and G. E. Nichols. 1908. The bryophytes of Connecticut. Connecticut Geol. Nat. Hist. Surv. Bull. 11: 1–203.

Frye, T. C. and L. Clark. 1937. Hepaticae of North America. Univ. Wash. Publ. Biol. 6: 1–162.

———. 1943. Hepaticae of North America. Univ. Wash. Publ. Biol. 6: 163–336.

———. 1945. Hepaticae of North America. Univ. Wash. Publ. Biol. 6: 337–564.
———. 1946. Hepaticae of North America. Univ. Wash. Publ. Biol. 6: 565–733.
———. 1947. Hepaticae of North America. Univ. Wash. Publ. Biol. 6: 734–1022.
Fuller, C. A. 1986. Bryophytes of Ha Ha Tonka State Park, MO. M.S. thesis. Southwest Missouri State University, Springfield.
Gier, L. J. 1955. Missouri bryophytes. Trans. Kansas Acad. Sci. 58: 24–49.
Grolle, R. 1968. Miscellanea Hepaticologica 81–90. Trans. British Bryol. Soc. 5: 541–547.
Guerke, W. R. 1978. A monograph of the genus *Jubula* Dumortier. Bryophyt. Biblioth. 17:1–114.
Haynes, C. C., and M. A. Howe. 1923. Sphaerocarpaceae and Riellaceae. N. Amer. Fl. 14(1): 2–8.
Hilton, T. 1986. Bryophytes of Roaring River State Park, Barry County, Missouri. Missouriensis 7: 41–50.
Holmberg, N., and J. J. Atwood. 2014. Bryophytes of Taum Sauk Mountain State Park. Evansia 31: 8–16.
Hong, W. S. 1988. The family Cephaloziaceae in North America west of the hundredth meridian. Lindbergia 14: 79–88.
Howe, M. A. 1898. The Anthocerotaceae of North America. Bull. Torrey Bot. Club 25: 1–24.
———. 1917. Notes on North American species of *Riccia*. Bryologist 20: 33–36, pl. III.
———. 1923. Ricciaceae. North American Flora 14(1): 11–27.
Jovet-Ast, S. 1965. *Riccia crystallina* L. *emend.* Raddi and *Riccia cavernosa* Hoffm. *emend.* Raddi. Rev. Bryol. Lichénol. 33: 459–483.
King, S. H., J. Moody, P. L. Redfearn, J. L. Keene, and L. M. Bowe. 2012. Plants of the Bull Shoals Field Station, Taney County, Missouri. Missouriensis 31: 19–43.
McGregor, R. L. 1955. Taxonomy and ecology of Kansas Hepaticea. Univ. Kansas Sci. Bull. 37: 55–141.
———. 1960. A new species of *Riccia* from the Ozarks. Bryologist 63: 30–31.
Nelson, N. L. T. 1911. Bryophyta, Hepaticae. Pp. 24 *in* Checklist Committee of the Engelmann Botanical Club (eds.). A Preliminary Checklist of the Cryptogams and Phanerogams in

the Vicinity of Saint Louis, Missouri. Published by the authors, St. Louis.

Orzell, S. 1984. Natural area inventory and floristic analysis of fens in selected southeastern Missouri counties part II. Missouriensis 5: 109–116.

Pech, F. 1867. Catalogue of the United States plants in the Department of Agriculture. United States Department of Agriculture, Washington.

Redfearn, P. L. 1960. Bryophytes of southwest Missouri III. Additions to the flora. Bryologist 63: 110–111.

———. 1961. Bryophytes of southwest Missouri IV. Additions to the flora. Bryologist 64: 266–267.

———. 1962. Bryophytes of southwest Missouri VI–VII. Bryologist 65: 63–65.

———. 1963. Bryophytes of southwest Missouri VIII. Additions to the flora. Bryologist 66: 27.

———. 1964. Bryophytes of Missouri IX. Additions to the flora. Bryologist 67: 201–203.

———. 1966. Bryophytes from the Interior Highlands of North America. XI. Additions to the flora. Bryologist 69: 504–508.

———. 1970. Bryophytes of the Interior Highlands XV. Addition to the flora. Bryologist 73: 716–717.

———. 1976. Bryophytes of the Interior Highlands. XVI. New distributional records for Arkansas and Missouri. Bryologist 79: 100–101.

———. 1980. Bryophytes of cedar glades. pp. 77–83 *in* C. L. Kucera (ed.). Proceedings of the Seventh North American Prairie Conference. Southwest Missouri State University, Springfield.

———. 1981 Bryophytes in springs & spring branches of Missouri. Trans. Missouri Acad. Sci. 15: 5–19.

Schljakov, R. N. 1975. Systematic notes on Hepatics s. str. Novosti Sist. Nizsh. Rast. 12: 307–317.

———. 1980. Hepatics of the northern region of the USSR, Part 3. Hepaticae: Lophoziaceae–Mesoptychiaceae. Akad. Nauk SSSR, Leningrad, Russia.

Schuster, R. M. 1966. The Hepaticae and Anthocerotae of North America East of the Hundredth Meridian, Vol. 1. Columbia University Press, New York.

———. 1969. The Hepaticae and Anthocerotae of North America East of the Hundredth Meridian, Vol. 2. Columbia University Press, New York.

———. 1974. The Hepaticae and Anthocerotae of North America East of the Hundredth Meridian, Vol. 3. Columbia University Press, New York.

———. 1980. The Hepaticae and Anthocerotae of North America East of the Hundredth Meridian, Vol. 4. Columbia University Press, New York.

———. 1992. The Hepaticae and Anthocerotae of North America East of the Hundredth Meridian, Vol. 5. Field Museum of Natural History, Chicago.

———. 1992a. The Hepaticae and Anthocerotae of North America East of the Hundredth Meridian, Vol. 6. Field Museum of Natural History, Chicago.

Sérgio, C., and M. Sim-Sim. 1989. *Riccia incrassata* Brotero, a neglected name of *Oxymitra paleacea* Bisch. *ex* Lindenb. J. Bryol. 15: 659–663.

Smith, T. E. 2006. Botanical Highlights—2006. Missouriensis 27: 17–22.

Smith, T. E., and S. L. Timme. 2006. *Oxymitra incrassata* (Brot.) Sérgio & Sim-Sim (Oxymitraceae) new to Missouri. Evansia 23: 97.

Söderström, L. S. R. Gradstein, and A. Hagborg. 2010. Checklist of the hornworts and liverworts of Java. Phytotaxa 9: 53–149.

Steyermark, J. A. 1941. Studies of the vegetation of Missouri. II. Phanerogamic flora of the fresh water springs in the Ozarks of Missouri. Bot. Ser. Field Mus. Nat. Hist. 9: 481–618.

Stotler, R. E., and B. Crandall-Stotler. 1977. A checklist of the liverworts and hornworts of North America. Bryologist 80: 405–428.

———. 2005. A revised classification of the Anthocerotophyta and a checklist of the hornworts of North America, North of Mexico. Bryologist 108: 16–26.

———. 2010–onwards. Worldwide monograph of the suborder Fossombroniineae, 5 October 2010, [http://bryophytes.plant.siu.edu/fossombroniineae.html]. Accessed 22 April 2013.

Stotler, R. E., and D. K. Crotz. 1983. On *Mnium trichomanis* Linnaeus (Hepatophyta). Taxon 32: 64–75.

Stotler, R. E., and W. T. Doyle. 2004. *Riccia crystallina* verified in North America, North of Mexico. Bryologist 107: 107–110.

Stotler, R. E., and D. H. Vitt. 1972. Additions to the hepatic flora of the Pickle Springs Area of southeastern Missouri. Bryologist 75: 176–178.

Szweykowski, J., K. Buczkowska, and I. J. Odrzykoski. 2005. *Conocephalum salebrosum* (Marchantiopsida, Conocephalaceae)—a new holartic liverwort species. Pl. Syst. Evol. 253: 133–158.

Thomas, P. E. 1974. Hepaticae of the Interior Highlands, North America. M.S. thesis. Southwest Missouri State University, Springfield.

Thomas, L. P. and J. R. Jackson. 1985. Walk softly upon the Earth. A pictorial field guide to Missouri mosses, liverworts and lichens. Missouri Department of Conservation. Jefferson City.

Thomas, P. E., and P. L. Redfearn. 1976. Bryophytes of the Interior Highlands. XVI. New distributional records for Arkansas and Missouri. Bryologist 79: 100–101.

Timme, S. L. 1991. Hepatics collected at the eighth Midwest Bryological & Lichenological Foray. Evansia 8: 48–50.

Timme, S. L., and P. L. Redfearn. 1997. Checklist of the liverworts and hornworts of the Interior Highlands of North America in Arkansas, Illinois, Missouri, and Oklahoma. Evansia 14: 89–105.

———. Checklist of the liverworts and hornworts of the Interior Highlands of North America in Arkansas, Illinois, Mis-souri, and Oklahoma. [http://www.btikansas.com/dotAsset/43515457-3474-489d-baa3-924c9b39550a.pdf]. Accessed 3 Jan. 2012.

Underwood, L. M. 1894. Notes on our Hepaticae. II. The genus *Riccia*. Bot. Gaz. (Crawfordsville) 19: 273–278.

———. 1895. Notes on our Hepaticae. III. The distribution of the North American Marchantiaceae. Bot. Gaz. (Crawfordsville) 20: 59–71.

Váňa, J., L. Söderström, A. Hagborg, and M. von Konrat. 2012. Notes on early land plants today. 8. New combinations and some lectotypifications in *Mesoptychia*. Phytotaxa 65: 52–56.

———. 2013. Notes on early land plants today. 41. New combinations and synonyms in Cephaloziaceae (Marchantiophyta). Phytotaxa 112: 7–15.

Vitt, D. H. 1967. The Hepaticae of the Pickle Springs Area, southeastern Missouri. Bryologist 70: 437–439.

Vitt, D. H., and D. G. Horton. 1990. Rich fen bryophytes in Missouri: ecological comments and three state records. Bryologist 93: 62–65.

Wilson, W. 1841. Musci Americani; or, specimens of mosses, Jungermanniae, &c. collected by the late Thomas Drummond, in the southern states of North America. Arranged and named by W. Wilson and Sir W. J. Hooker. Warrington.

Yamada, K., and S. R. Gradstein. 1991. The genus *Radula* (Hepaticae) in the Galapagos Islands. Trop. Bryol. 4: 63–68.

Zirkle, E. E., J. W. Cunningham, and H. W. Rickett. 1930. Common bryophytes in the vicinity of Columbia, Missouri. Univ. Missouri Stud. 5: 25–30.